

COMMONWEALTH OF PENNSYLVANIA
HOUSE OF REPRESENTATIVES

CONSUMER AFFAIRS COMMITTEE

STATE CAPITOL
ROOM G-50 IRVIS OFFICE BUILDING

TUESDAY JANUARY 10, 2012
1:04 PM

HEARING ON
HOUSE BILL 1855 (MILLER)

BEFORE:

HONORABLE ROBERT GODSHALL, MAJORITY CHAIRMAN
HONORABLE JOSEPH PRESTON, MINORITY CHAIRMAN
HONORABLE BRYAN BARBIN
HONORABLE JOSEPH BRENNAN
HONORABLE FRANK BURNS
HONORABLE SHERYL DELOZIER
HONORABLE EUGENE DePASQUALE
HONORABLE GENE DiGIROLAMO
HONORABLE BRIAN ELLIS
HONORABLE JOHN EVANS
HONORABLE FRANK FARRY
HONORABLE JULIE HARHART
HONORABLE NICK KOTIK
HONORABLE JOHN PAYNE
HONORABLE SCOTT PERRY
HONORABLE TODD STEPHENS
HONORABLE MARCY TOEPEL
HONORABLE RON MILLER

ALSO PRESENT:

COLIN FITZSIMMONS
REPUBLICAN EXECUTIVE DIRECTOR

AMANDA RUMSEY
REPUBLICAN COUNSEL

JANE HUGENDUBLER
REPUBLICAN LEGISLATIVE ADMINISTRATIVE ASSISTANT

ELIZABETH ROSENTEL
DEMOCRATIC EXECUTIVE DIRECTOR

LISA KUBEIKA
DEMOCRATIC LEGISLATIVE ASSISTANT

JERRY LIVINGSTON
DEMOCRATIC RESEARCH ANALYST

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WRITTEN TESTIMONY SUBMITTED:

NATIONAL ASSOCIATION OF WATER COMPANIES

PENNSYLVANIA COUNCIL OF PROFESSIONAL GEOLOGISTS

PENNSYLVANIA ENVIRONMENTAL COUNCIL

THE COUNTY OF CHESTER

THE COUNTY OF MONTGOMERY

PENNSYLVANIA STATE ASSOCIATION OF BOROUGHES

PENNSYLVANIA GROUND WATER ASSOCIATION – TODD GIDDINGS, DIRECTOR

CHAIRMAN GODSHALL: Good afternoon. The hour of 1:00 having arrived, I'd like to call the meeting or this hearing to order. The meeting is being recorded, for the information of all those in attendance, this hearing is being videotaped by the Broadcasting Office of the House Bipartisan Management Committee. This is a hearing on HB 1855, which amends Title 27, Environmental Resources, providing for well water construction standards. I'd like to get started by having the members introduce themselves and we'll start over here on my right.

REPRESENTATIVE PAYNE: John Payne, 106th District, southeastern Dauphin County.

REPRESENTATIVE TOEPEL: Marcy Toepel, 147th District, western Montgomery County.

REPRESENTATIVE DiGIROLAMO: Good afternoon. Gene DiGirolamo, 18th, Bucks County.

REPRESENTATIVE STEPHENS: Todd Stephens, 151st, Montgomery County.

REPRESENTATIVE MILLER: Ron Miller of 93rd District. Not a member of the committee, but thank the Chairman for brining up this bill for discussion today.

REPRESENTATIVE ELLIS: Brian Ellis, 11th District, Butler County.

REPRESENTATIVE BURNS: Frank Burns, 72nd District, Cambria County.

REPRESENTATIVE EVANS: John Evans, 5th District, Erie and Crawford Counties

REPRESENTATIVE KOTIK: Nick Kotik, 45th District, Allegheny County.

REPRESENTATIVE BARBIN: Bryan Barbin, 71st District, Cambria County.

REPRESENTATIVE GODSHALL: Bob Godshall, Montgomery County.

REPRESENTATIVE PRESTON: Joe Preston, 24th District, Allegheny County.

CHAIRMAN GODSHALL: Okay, I'd like to start by allowing our, asking Representative Miller if he has anything to say as far as opening remarks on HB 1855.

REPRESENTATIVE MILLER: Thank you Mr. Chairman and thank you for holding this hearing on HB 1855.

HB 1855 provides the statutory authority authorizing the Environmental Quality Board to establish water well construction standards through the adoption of rules and regulations of the DEP (Department of Environmental Protection) that are generally consistent with the National Groundwater Association construction standards. The EQB regulatory process averages about 2 years during which input from various stakeholders and associations will be received.

Some 20,000 new water wells are drilled each year in Pennsylvania, but the Commonwealth is one of only a few States without private well regulations. More than 3 million Pennsylvanians rely on about 1 million private wells for drinking water. Improperly constructed water wells can lead to poor water quality by providing pathways for bacteria and contaminants such as naturally occurring shallow methane gas to migrate into water supplies. Ensuring that the well is constructed properly from the start will help to prevent water quality problems in the future.

Establishing water well construction standards is an important component of the Commonwealth's water resource protection program. Specifically, two independent Statewide advisory committees have made strong recommendations to do so. On December 18, 2008, the Statewide Water Resources Committee reported its top legislative recommendation was to "...establish statewide private water well construction standards." On July 22, 2011 the Marcellus Shale Commission issued its recommendations which are included on page 108 and they state, "The Commonwealth should enact legislation establishing construction standards for new private water wells to ensure the delivery of safe drinking water to its residents."

To avoid any confusion upfront, the proposed legislation would merely establish construction standards, including the decommissioning of abandoned wells, to be followed by water well drillers and owners. Nothing in this legislation requires the metering of homeowner wells. In fact, Act 220 of 2002, known as the Water Resource Planning Act, specifically prohibits DEP or EQB from requiring the metering of homeowners wells.

Thank you again to the committee for considering this legislation and I look forward to hearing the testimony of others regarding HB 1855. Thank you Mr. Chairman.

CHAIRMAN GODSHALL: I'd like to also announce that Representative Farry has joined us. Chairman Preston do you have any?

CHAIRMAN PRESTON: I'd just, very briefly, I look forward to this in light of the issue that we have, not just the gas well issues going on but water wells being able to establish a standard accountability so that were in one step with the rest of the country.

CHAIRMAN GODSHALL: I think in the research I've done, I think it's only a handful of States, if I'm not mistaken, only two that don't have any kind of well restrictions pertaining to private wells. And when this bill came along I hopped on board almost immediately because of my own personal experience which I would like to relate a little bit of, at this point.

A family has a farm up in above Mansfield which is in Tioga County, and I was up there last year and got, I have a little bit of a health problem sometimes and I don't have a large immune system that can fight off any kind of different – anything that comes along, really. So what happened, I got really sick and I was sick to a degree of really being sick after I visited the farm and I immediately thought well this is a Marcellus issue because there was a Marcellus well drilled about 300 maybe 2-300 yards away from the house. I had it checked out and immediately checked out and it was found to be coliform in our well and E.coli. None of which are related to

Marcellus. It was related to water runoff into the well from top from ground water running into the well, ground water being polluted. At that time I had the well shocked, cost me over \$1200 and repaired to some degree, it lasted for a while and pretty soon again because of the continued water runoff I had again a contaminated well. So, I just paid at this point \$2630 to have a purification system put on that well so we could use it. And I did it the same time I went to my, I had my well checked at home where I live on a farm in Montgomery County. I found that well was contaminated with E.coli and to a light degree with E.coli and coliform. So, I am now getting public water at a huge expense into my farm back in Montgomery County and I have purification system up in the farm in Mansfield. So it's something that I never expected. I talked to the well driller up in Potter County pertaining to it and he said after he shocked the well last year there was nothing he could do. He didn't know how long it was going to last because he could clean the water up, he could clean the well up today, with more surface water running in it's going to contaminate itself again.

So this is what we're looking at, I asked him about coming down here today and he said, Bob, he said I'm working 8 days a week and he said mostly repairing wells from people that have found and all of a sudden people are starting to check their wells when people having contaminated wells. So, it's not a pleasant situation and also at the same time these contaminated wells interfere with ground water and contaminate ground water for everybody else.

So it's a situation that is should be addressed and I appreciate Representative Miller's bill coming through. I also like to acknowledge Representative Delozier has joined us at this point.

So at this point I'd like to call Bryan Swistock, Water Resource Extension Specialist, Penn State University. I know they have done extensive study on private wells and we appreciate you coming down here today Bryan. You may start at any time.

MR. SWISTOCK: Thank you.

Chairman Godshall, Chairman Preston and members of the committee, I am Bryan Swistock, a senior water resources extension associate in the College of Agriculture Sciences at Penn State. Thank you for the opportunity to provide comments related to HB 1855 on water well construction standards. For the past 23 years I have been actively involved in both research and outreach programs related to private water wells in Pennsylvania. Our current efforts in this area were largely founded in research and extension work began in the early 1980's by my predecessor, Dr. William Sharp in School of Forest Resources at Penn State. He and his colleagues at that time recognized that private water wells are a critical part of the water infrastructure in Pennsylvania, providing drinking water to millions of residents in rural homes, farms and businesses.

I want to first recognize both the Center for Rural Pennsylvania and the Pennsylvania Water Resources Research Center. These two sponsors have provided the majority of the funding necessary to complete the research on private water wells which I will refer to today. Other funders such as Pennsylvania Ground Water Association, Pennsylvania Department of Environmental Protection, and the Pennsylvania Rural Water Association along with colleagues at many other agencies and institutions across the State have been very supportive of our private water supply programs.

Pennsylvania's currently one of the few States that do not have Statewide requirements for the construction of private water wells. In the absence of both regulatory protections and unbiased assistance, Penn State has devoted considerable research and extension efforts to meet the demands of private well owners interested in properly constructing and managing their drinking water supply. Over the past three decades we have conducted numerous research

projects on various aspects of water quality that have included thousands of private water wells. The largest were a 2 year project in 2006 which studied over 700 private water wells throughout the State and a project just completed in 2011 that studied over 200 water wells near Marcellus gas drilling sites.

Our research has consistently found that approximately 40 percent of the private water wells in Pennsylvania fail to meet at least one safe drinking water standard. The most frequently detected pollutant with a potential health effect is coliform bacteria, which occurred in about one-third of the water wells tested in our research. The presence of these bacteria indicates the potential for disease causing bacteria to occur in drinking water. E.coli bacteria, which originate from either animal or human wastes and thus represent a more serious health risk, were found in 14 percent of the water wells in our study.

While these bacteria can be related to various land uses near water wells, they can also occur from surface water, insects, or small mammals entering poorly constructed wells. This surface contamination can be prevented by extending a properly sized well casing above the ground surface, installing a cement like grout seal around the casing, and fitting the top of the casing with a vermin proof or sanitary well cap. Our research found that 12 percent of water wells did not have a casing above ground, 84 percent lacked a sanitary well cap, and 82 percent had no obvious evidence of a grout seal around the well casing. More importantly, this same research showed a statistical correlation between water well construction and the occurrence of both coliform bacteria and E.coli bacteria in the well water. Bacterial contamination rates in water wells with sanitary construction were about half of the rates found in water wells which lacked any sanitary construction components. While proper well construction did not completely

eliminate water quality problems, it clearly played a role in the occurrence of surface contaminants like coliform bacteria in water wells.

An earlier, small scale study that we conducted in conjunction with the US Geological Survey found that some bacterial contamination in water wells could be removed simply by having a water well professional disinfect the well and replace loosely fitted well caps with a sealed, sanitary well cap. I can personally attest to the value of a sealed, sanitary well cap from experience with my own home water well. Nearly 15 years ago our family purchased a rural home with a deep water well that lacked a sanitary well cap. The well was tested and found to be bacterially contaminated. Several hundred dollars were spent during the real estate transaction to install an ultraviolet light disinfection system to treat the water to acceptable bacteria standards. Not long after moving into the home, we discovered that the bacteria were originating from mice which were entering the well through a loose well cap and nesting on the pitless adapter about 3 feet below the ground surface. We were able to permanently solve our bacteria problem by removing the mice and no longer needed the ultraviolet light water treatment system.

Unfortunately, our bacteria problem and similar problems with many health related pollutants in water wells are often only discovered after proper testing by a State accredited laboratory and interpretation of these water test records. Several of our research projects have shown that homeowners with water wells that fail at least one health based drinking water standard are typically unaware that their water is unsafe. Just as one example, of the 203 water wells that contained unsafe levels of coliform bacteria on our 2006 study, only 11 percent were aware of this problem before our study. We have found that about one-third of water well owners have never had their water tested properly by a State accredited laboratory, especially before the

increased testing on response to Marcellus Shale gas drilling. Clearly, the lack of voluntary water testing is one impediment to the recognition of existing water quality problems.

An additional study that we just completed in 2011 studied over 200 water wells near Marcellus gas drilling sites and found that even water well owners who had extensive water testing done before gas drilling were often unaware of existing water quality issues in their water well. In this case, it appeared that the water supply owners were having difficulty understanding complex water test reports. In addition to the obvious health risks associated with unknowingly drinking contaminated water, uninformed homeowners may also fall victim to unscrupulous businesses practices. Given the low awareness of existing water quality issues among water well owners, practices such as proper well construction which can prevent water contamination are critical to protect the health of rural residents utilizing these water supplies.

Private water wells are pervasive across the landscape of Pennsylvania, serving as important sources of water for rural and suburban homes and farms. The groundwater aquifers that they access are a shared resource that does not recognize political or property boundaries. Our research has shown that inadequate water well construction is a contributing factor to the failure of some private water wells to meet safe drinking water standards in this State. This, along with the fact that many health related pollutants have no obvious symptoms in water, water well owners often do not adequately test their water supply, and those that do may not understand the water test results, leads to a significant potential health risk among the millions of rural residents, farmers, and businesses that access the shared groundwater resource. Our research also found that about two-thirds of water well owners who were made aware of these issues were supportive of Statewide regulations for water well construction, even if it added more than \$500 to the cost to a new water well.

Again, thank you for the opportunity to discuss our research experiences relevant to private water wells. I'll be happy to answer any questions.

CHAIRMAN GODSHALL: Thank you very much for your testimony, and obviously the repairs on my wells were a lot more expensive than the original putting them in and doing the right thing the first time around. So, I appreciate that and I, now we have questions from Representative Ellis.

REPRESENTATIVE ELLIS: Thank you very much Mr. Chairman, just real quick, you had testified that even the wells are properly constructed, you said half the rate found in the water wells which lacked sanitary construction. So in theory, that rate would continue even if we put in tougher uniform standards, there would still be a rate of 20 percent contamination?

MR. SWISTOCK: Yeah, you're not, for example in one of our studies we went to areas where there are existing construction standards and sampled wells that did have presumably the kind of construction that we would like to see with sanitary well caps and grout seals and still saw, for example, bacterial contaminations in the 20-24 percent range, something in that area. So you're are not going to eliminate issues, there's other problems related to land uses, what they're doing around the wells, aquifer contamination that may be occurring from other things even the best constructed well is not going to prevent that.

REPRESENTATIVE ELLIS: I just think that, I just want to be clear on that because the concept would be were going to make you have this well construction and the people will think they are going to have a guarantee, but they won't.

MR. SWISTOCK: No guarantee, it would generally would solve some problems but it will not solve all problems, no.

CHAIRMAN GODSHALL: Thank you, Representative Brennan.

REPRESENTATIVE BRENNAN: Thank you Mr. Chairman, thank you for your testimony. You said you have about 40 percent of the wells that you tested in your study showed some irregularity or over the limit on a number of different substances. Is that, in the States that do have current regulations, have you compared even if it's just surrounding States as far as what their numbers would be?

MR. SWISTOCK: A little bit, I haven't done a lot of comparison, frankly there haven't been a lot of studies in some States to be able to compare to and you can find some States where the rates were lower and some were higher and there's a lot of other factors involved here, the geology, the prevailing land uses around those areas so it's somewhat difficult to really try to be able to compare them apples to apples, it's not really easy to do that.

REPRESENTATIVE BRENNAN: At 40 percent is pretty alarming I would say to me.

MR. SWISTOCK: Yeah and it's been found consistently in Pennsylvania going all the way back to the 80's when Bill Sharp did some of the early work here he found the same kind of percentages.

REPRESENTATIVE BRENNAN: And Chairman Godshall, once again you're above average, you're at 100 percent of irregularities in your two wells. Thank you.

CHAIRMAN GODSHALL: Thank you. Are there any other questions from any of the members? Representative Toepel?

REPRESENTATIVE TOEPEL: Just a quick question, I don't know if you have a statistic for this, but if 40 percent are found to be not passing the safe drinking water standards and we would implement these safe drilling standards for the wells, can you surmise how much that would be lowered or how much of the contamination would be cured by this bill?

MR. SWISTOCK: It is very difficult to say for sure, I can only again go back to some of our research in the one case where we did go in and shocked the wells and put on a sanitary well cap. We were able to solve somewhere in the neighborhood of 15 percent of those that had bacteria. So it wouldn't be half, it would be about 15 percent of the ones that had bacteria we solved just by doing that, and that had nothing to do with the grout seal or extending casings or anything like that. So that's really the only case where we looked at retro fitting wells and seeing what effect that would have. If you look at, again, going back to new water wells that were constructed presumably and the correct way in areas where there's an ordinance, we see that the rates were somewhere in the neighborhood of 20-24 percent instead of closer to one-third, so that's the best as I can do to give you an idea of how much it might go down.

REPRESENTATIVE TOEPEL: Thank you.

MR. SWISTOCK: And that's just bacteria, I should say, there are other pollutants to deal with here that we don't have near as much research on.

CHAIRMAN GODSHALL: Thank you very much, I appreciate you coming down, and appreciate your testimony today, thank you.

BRYAN SWISTOCK: Thank you.

CHAIRMAN GODSHALL: Next testifier is Kelly Heffner, Deputy Secretary for Water Management from Department of Environmental Protection.

SECRETARY HEFFNER: Good afternoon Chairman Godshall, Chairman Preston and members of the committee. Thank you for the invitation to present testimony before the committee on water well construction standards.

In the October, 2011 study done by the Center for Rural Pennsylvania, a bipartisan, bicameral legislative agency that serves as a resource for rural policy within the Pennsylvania

General Assembly, it was estimated that there are 1 million private water wells in Pennsylvania with over 3 million residents using these wells as a primary water supply. Approximately 13,000 to 15,000 new residential wells are drilled in Pennsylvania every year. When geothermal wells are taken into consideration the total number of wells drilled annually increases to approximately 20,000. The National Ground Water Association as well as the Center for Rural Pennsylvania study, identify that Pennsylvania and Alaska are the only two States that do not have construction standards established for private water wells.

In the absence of Statewide standards, three counties have developed and implemented well construction standards; Bucks, Chester, and Montgomery. And recently, several municipalities in the central region of the State have passed well bore ordinances which capture both water well construction and geothermal well construction.

Contamination of private wells can occur naturally or through human impacts. For example, leaching of elements like iron or arsenic from bedrock occurs naturally, while leaching of bacteria from a septic system is a result of human influence. Treatment systems are available to address most types of contamination. However, the first line of defense should be prevention. A properly sited and constructed well can prevent some human influences such as contaminated surface water from contaminating the groundwater.

Each well creates an opportunity for surface water pollution to find its way into groundwater and for pollution to travel from one aquifer underground to another. Several studies have documented the occurrence of various water contaminants in private water systems. Large scale national and Statewide studies typically report that about 15 to 50 percent of private systems fail at least one safe drinking water standard. The Center for Rural Pennsylvania study

states that 40 percent of private wells in Pennsylvania exhibited a failure of some safe drinking water standards.

With this in mind, Pennsylvania is fortunate to have an ample clean supply of water, so we should have adequate measures in place to help protect the valuable resource. Proper well construction would be one piece of the puzzle to providing future protection of groundwater.

DEP believes that HB 1855 is a step in the right direction towards establishing Statewide standards for water well construction. Previous legislative attempts to establish water well construction standards have proven unsuccessful. Legislation was introduced in the House of Representatives in 2001 and opponents mounted a large misinformation campaign that purported the legislation would give DEP the power to put meters on homeowner's wells and charge for water use, and that DEP inspectors would be trespassing on citizen's properties demanding compliance. This was not the case; however, it resulted in a large letter writing campaign to legislators that stopped the legislation from proceeding forward. So from the start, DEP wants to be clear what this legislation is and is not.

This legislation does not give DEP or the Commonwealth the authority to charge a fee for private water usage; it does not give the power to install water meters on private wells; it does not grant the power for DEP or the Commonwealth to shut a person's well off or regulate the amount of private well an owner can use.

What this legislation does do is establish the basis for water well construction standards to be developed through a public rulemaking process. It identifies important standards that must be met such as site selection, casing installation, grouting, disinfection, and sampling and analysis. It also identifies the importance of decommissioning abandoned wells, thereby closing a potential sources of contamination to the groundwater.

In addition to identifying what this legislation is and isn't, it is also important to look at what is already in place and what may be needed to improve the well drillers program going forward. Currently, under Act 610 of 1956, the Well Driller's Licensing Act, water well drillers are required to register for a license with Department of Conservation and Natural Resources and also complete a drilling record for submittal to DCNR. However, there are no minimum requirements to obtain a license; one just needs to fill out the form and purchase a drilling rig and one can go to work.

DEP would respectfully recommend that the legislature consider the possibility of including minimum requirements for licensing, along with continuing education requirements. There are many good operators in the Commonwealth and we should utilize them as a resource to assist in the further development of Pennsylvania's well driller program.

Pennsylvania is very fortunate to have an ample clean supply of both surface water and groundwater. Legislation that establishes water well construction standards and raises the bar on the importance and competence of the professionals in the industry will help protect our valuable water resources for generations to come.

Thank you for the opportunity to present testimony on behalf of DEP and I would be happy to answer any questions you may have.

CHAIRMAN GODSHALL: Thank you, I'd like to call on Representative Payne.

REPRESENTATIVE PAYNE: Thank you Mr. Chairman, just clarifying, I think I heard you correctly. If I come in, fill out the form and I buy a drill rig, I'm now a driller, I can go anywhere in Pennsylvania and drill even though I may not have any idea what I'm doing?

SECRETARY HEFFNER: Correct.

REPRESENTATIVE PAYNE: We have no State standards on the drilling companies or the drilling standards for the person doing it; we also don't have the standards on the well water on the shaft itself, so I kind of see the need in both places in addition to having good standards on drilling a well, I would hope we would have some kind of standard in who can be the driller drilling that well. It's a little scary to think that the public is drinking water out of wells that could have been drilled by somebody who has no clue what they're doing and then have a contaminated well yet. I just want to make sure that that's what I.

Can you provide us, are most States, do they not have any guidelines on who can drill in the State?

SECRETARY HEFFNER: We can, I can certainly go back and work with staff to get you that information.

REPRESENTATIVE PAYNE: Yeah, I'm the last one who wants to come up with more regulations for business, trust me, but I'm also this is public safety, this is concern about drinking water and I think most people assume – bad word – that when they buy a property and they have a well that the water's safe to drink. Thank you. Thank you Mr. Chairman.

CHAIRMAN GODSHALL: Thank you, Representative Ellis.

REPRESENTATIVE ELLIS: Thank you Mr. Chairman and thank you for your testimony today. You mentioned that the Act 610 of 1956 puts the power for permitting, not permitting but, licensing to the DCNR. Do you believe that should maybe transferred over to DEP?

SECRETARY HEFFNER: Personally I don't have an opinion on that, I'm not sure the Department does at this time either. I think we're very much open to suggestions by the legislature.

REPRESENTATIVE ELLIS: Thank you very much.

CHAIRMAN GODSHALL: Chairman Preston.

CHAIRMAN PRESTON: Following up on Representative Payne's statement, what would be your recommendation of those people who are already drillers, what would we do this if we just grandfather them all in, do you have a recommendation, do we set up a time for setting up, minimum requirements where they would be able to meet the same needs too? Because that's something else we would have to look at as far as legislation.

SECRETARY HEFFNER: I believe one of the things that may be useful is some sort of working group to address that question along with if we were indeed interested in standards for drillers. A group like that could discuss both questions at the same time.

CHAIRMAN PRESTON: I think it is something that we need to think about, about those people that have been in there, some of them may be second or third generation families just as well. Thank you Mr. Chairman.

CHAIRMAN GODSHALL: Do we have any idea how many well drillers we have in the state of Pennsylvania?

SECRETARY HEFFNER: I do not sir, but we will certainly get that information to you.

CHAIRMAN GODSHALL: I know they have an organization and I know the gentleman is going to speak on that probably at the end or very shortly, but is the ground water contamination from a contaminated well leading to ground water contamination, is that a serious problem or is that something that rarely happens? If I have a seriously contaminated well and it's left in a contaminated state, does that have any relevance to the ground water underneath?

SECRETARY HEFFNER: I guess the first question is I believe anytime that a person's impacted by contaminated personal well water that's a serious situation. I think what plays into how serious it gets for the ground water is exactly what it is that it's contaminated with. So I

don't know that want to speak to seriousness without knowing what that might be, I mean some sort of petroleum type contamination is going to be looked at differently than some other potential contamination.

CHAIRMAN GODSHALL: But a serious E.coli contamination would actually translate down into the ground to the ground water supply which is supplying the well with water?

SECRETARY HEFFNER: Right, and I'd have to do some more research back at the office to determine how that moves through the ground water and how long it's viable.

CHAIRMAN GODSHALL: Are there any other questions? If not, thank you very much and please if you can get us some of those answers we would appreciate it.

SECRETARY HEFFNER: Absolutely.

CHAIRMAN GODSHALL: Next I'd like to call Donald Wagner, Chairman, Government Affairs Committee, Pennsylvania Council of Professional Geologists.

Maybe you can answer some of those questions.

CHAIRMAN WAGNER: I'd like to thank Chairman Godshall, Chairman Preston, and the committee today for the opportunity to be here before you. My name is Donald Wagner, I am a professional geologist licensed in Pennsylvania, I also happen to be an environmental attorney, this is my second career if you will, licensed to practice in Pennsylvania and New Jersey. I was first and foremost a geologist before I crossed over to the dark side so to speak, at least that's what my geology friends say. I also want to point out here that I'm here today in my capacity as a member of the Board of Directors of PCPG and the Chair of its government affairs committee and the comments that I have today are not those of my employer.

I had some prepared remarks today and some of those we're going to go over, some of the studies and results that have already been discussed, and so I'm going to go a little bit off script

from my prepared remarks and maybe address some of the questions that I know that some of the representatives here today have raised regarding testing and things of that sort and whether a well would be, a properly constructed well would eliminate all problems and also maybe some of the contamination issues in whether a well can serve as a conduit to contaminate other people's wells.

First off, Pennsylvania Council of Professional Geologists is a diverse group of over 450 licensed geologists and professional scientists who advocate the use of sound science in the responsible exploration and development of Pennsylvania's natural resources, formulation of public policy, protection of human health and the environment, establishment and evaluation of environmental regulatory programs, the dissemination of accurate information. And we are very pleased; we've been very much interested in developing private water wells regulations in the state of Pennsylvania and have watched over the years and have tried to participate and facilitate where we could, because we believe as professional scientists who work day in and day out with ground waters in the Commonwealth and with wells that this is a very important issue. And I would add an aside, it's not just private water wells, there are also many wells put in the State of Pennsylvania for a variety of uses; there's agricultural wells that are put in for irrigation for livestock, there are plant production wells and process water wells that are used for industrial purposes, private water wells, heat pumps, monitoring wells, remediation wells that are put in for environmental cleanup purposes and evaluation purposes. So there are a lot of different kinds of wells that are put in in the Commonwealth.

Water wells, the PCPG has concerns over two issues. One is that health and safety issues, if you're going to put a well in for someone's drinking supplies should at least meet some minimum construction standards, not to eliminate all chance of contamination, but to give it the

best shot of not being or not being contaminated by extraneous sources. The other aspect of that is water resource protection, because we view wells not only as a means of drawing water from the ground for various private or economic uses, but we also view each well as a potential pathway to contaminate groundwater for other people. Things that are dumped in a well can end up making their way to users of the ground water downstream of you if you will.

It really does depend on the geology of the situation for how fast something is going to move through ground water, but we have seen instances where things are either disposed of in an abandoned well or the well isn't properly constructed so that something that is running along the surface can run into a well and depending on the geology it can make its way down stream to other users of the ground water. So even if somebody else properly constructs their well it is potential pathway for contamination to other wells. You can't really be specific as to because the varied geology Pennsylvania has but there are ways that wells can serve as conduits for contamination.

So we have two concerns, one is health and safety and the other one is protection of the water resource and the Commonwealth, eventually we'd like to see, PCPG would like to see construction standards for any well that's not regulated by another statute whether it's the Oil and Gas Act, the Safe Drinking Water Act, or any other statute. If folks are out there putting wells in, we think they should be properly constructed for whatever purpose they're being put in and when they're no longer needed they should be properly decommissioned.

I'm not going to go over the studies as I said and there were talks about some of the issues with the wells. I'm not going to go over, there's some testimony that was kind of similar to what the DEP had provided in the fact that this legislation does not give DEP the authority to put meters on folks wells.

We do have a few other comments on the legislation and I thought it would be important to discuss HB 1855 and some recommendations or some comments on it as you work through the process. One of the facts, if this legislation is going to be strictly limited at this point in time to private water wells, wells that are installed for domestic use and other single or multi-tenant facility then I don't really have an objection to the language that was used to define the well owner. When you get into other types of wells or other types of well uses, especially in the remediation or the environmental context, the person who owns the land is not always the owner of the well and I just wanted to make that clear in case, and I made these comments before I understood the legislation was really geared toward private water wells.

One of the other things that we talked about, that some folks talked about was if we construct this well properly, is there still a risk that it could have contamination either from E.coli or from coliform and a few other things, I think it's important to keep in mind that the requirements in the statute also say we're looking at not only proper well construction standards but also testing requirements before the well is put into service. I think that's really important because you can do everything you possibly can to put the well in in a proper way, you still have to test that ground water and figure out whether there's anything in there that would fail to meet a drinking water standard. So, I think part of the program for proper well construction standards also includes adequate testing of the well before you put it into service to make sure that the water is safe for use. I think one of those things that we found with the Marcellus and with pre-drilling surveys is that most people, quite a few people do not know what is in their well water. They've never had it tested, they buy a property with a well on it and they drink it and if it looks okay and doesn't cause a problem, doesn't smell, if they don't notice an issue they don't have it tested. And if they do have it tested, they need someone to explain the results to them.

Now I noticed that, I heard Representative Miller mention that the regulations should be generally consistent with the guidelines prepared by the National Ground Water Association and I strongly support that, I'd like to see that. I didn't see that in the text or the statute itself but if that could be added to the statute that kind of gives some guidelines for the Department.

One of the other comments that I have on the legislation or that PCPG has on the legislation is that as noted, some municipalities have developed their own ordinances regarding well construction. I believe three counties in the Commonwealth also have well construction and permitting programs, I think that's a great start, it's a great resource for the Department as they prepare their regulations to review those programs see what has worked what has not worked.

The other thing I would ask the committee to consider is what happens with multiple, if you have an ordinance in a municipality and you have an ordinance in a county and you have a State level ordinance or sorry a State legislation and regulations, what happens when those are either duplicative or when they conflict, we might want to consider how to address those issues in the legislation itself because if you have multiple regulatory programs and multiple jurisdictions and multiple levels of government, you have the possibility of having duplicative requirements or conflicting requirements and that I think for clarity sake should be addressed.

Then lastly, pursuant to the professional, the Engineer Land Surveyor and Geologist Registration law, that requires that anybody practicing geology in the Commonwealth needs to be registered and licensed in the Commonwealth to practice geology and to the extent that any of the regulations that are developed as part of the legislation require the practice of geology in Pennsylvania we would prefer that the legislation or the regulations specifically reference the fact that anybody that's providing the geological services in Pennsylvania should be licensed and

registered in the Commonwealth in accordance with the Engineer Land Surveyor and Geologist Registration law.

That's it, I thank you very much for taking your time and I'm available for questions.

CHAIRMAN GODSHALL: I'd just like to say on that, where we have like including my County in Montgomery we do have a county ordinance but we can usually address those problems by saying that any local standards have to at least meet the standard set by the State or set by you know the overriding the State government or whatever. So that way we can get around that issue.

I do appreciate your remarks and appreciate anything that you can come up with as you go forward from here that you think should be in the bill and changes and so forth, the committee would be appreciative of that effort. And that goes for the rest of the speakers also from Penn State and DEP and so forth. What we want to make and can come out with a bill, I want to try to make sure we have the best bill that we can come up with and also protect the Commonwealth's water supply and also the people in the State of Pennsylvania.

I'd like to recognize Representative Harhart has also had joined us. Are there any questions? No more questions? Okay then thank you very much.

CHAIRMAN WAGNER: Thank you.

CHAIRMAN GODSHALL: The last presenter we have is Bill Reichart, President of Pennsylvania Ground Water Association.

PRESIDENT REICHART: Good afternoon Mr. Chairman and member of the committee, thank you for inviting me here to speak to you today on this most important topic obviously to myself and the other presenters.

My name is William W. Reichart, II, and I own and manage a ground water services well drilling company in Hanover, York County, Pennsylvania. In addition to being a sixth generation well driller in a company that's origination date precedes 1890; I am also the President of an organization that's been referred to here today as the Pennsylvania Ground Water Association.

I like the previous presenter had a number of remarks that have already been given so I will not waste the committee's time and try and go through and do a little bit of clean up details as well as hitting on some of the more poignant aspects in my presentation. I'd like to talk a brief moment about the Pennsylvania ground Water Association. We're an organization that is comprised of 667 members/non-members who are active in the ground water industry within the Commonwealth of Pennsylvania. This membership additionally represents 340 businesses operating within the Commonwealth. We are an organization of companies and persons engaged in drilling or constructing water and geothermal wells in Pennsylvania, manufacturing or supplying equipment and materials to accomplish these tasks, studying, teaching, or perfecting related technology, or evaluating or developing ground water and geothermal resources in Pennsylvania.

Our mission statement is:

"To assist, promote , encourage and support the interests and welfare of the water-well industry in all of its phases generally, and in particular within the Commonwealth of Pennsylvania

"To foster, aid, and promote scientific education, standards, research, and techniques in order to improve methods of well construction and development

"To promote harmony and cooperation between well contractors and governmental and scientific agencies relative to the proper development and protection of underground water resources

"To encourage cooperation of all interested groups relative to the improvement of drilling and pumping equipment

"To encourage, serve, assist, and promote close cooperation with the National Ground Water Association, Inc.

"To collect, analyze, and disseminate to the public, facts about the role of the water-well industry in the economy of Pennsylvania and of the nation

"To advance generally, the mutual interests of all those engaged in the water-well industry, in their own and the public interest."

Having said this, the PGWA which I represent supports HB 1855 as its goal is to protect human health and safety through water resources protection.

Some of the more poignant remarks that I would like to make now addressing some of the questions that were raised earlier, it is my belief as well that of our association that the proper construction of all wells and in specific water wells that we're talking about now is the number one item in the line of defense towards overall human health protection as well as protection of the ground water resource.

You talk about the technologies that we have here in 2012, we have technology in both the equipment that is designed and manufactured to drill the water wells as well as the materials that are designed to be in place within those water wells, the pumping equipment, the treatment equipment, it is within our grasp and in all sincerity it is my personal opinion that is deplorable

that the Commonwealth of Pennsylvania is on that list of two States nationally that do not have regulations in this regard.

If you were to look at the other aspect of water supply within the Commonwealth of Pennsylvania, the public water supply is regulated by terms you hear as the EPA list of contaminants. You hear in terms of public water well supply regulations, basically in a nut shell what this legislation is designed to do is to put some of that same thought, considerations, regulation, and monitoring of those protectionary provisions into the private sector when one goes to construct a private domestic water well.

At this time I will offer myself as a resource to the committee to answer any questions you might have.

CHAIRMAN GODSHALL: As Representative Payne said earlier this afternoon, it's sort of scary to think that somebody can fill a piece of paper out and all of a sudden become a licensed well driller and somebody hires them, put his name in the yellow pages, what used to be the yellow pages at least under well drillers and he's listed there and that automatically makes him a well driller in the State of Pennsylvania with not having any more ability than the ability to buy a drilling truck. He can put a casing in there for 3 foot or 5 foot or whatever and the unsuspecting homeowner who spent thousands of dollars for that well has no idea if that well is safe, if it's not safe or if there are any safety measures in there at all.

PRESIDENT REICHART: You're absolutely correct. As being involved with my membership both in my capacity as President and as long as I've been a member of my Association there is the assumption from the general public when they engage with members of my industry to perform services that those services will be performed up to a certain level of expectation and or meeting some particular type of standard which may or may not exists. Even

though we do not have Statewide water well standards or water well construction standards or geothermal well construction standards or anything on the domestic side if you get where I'm going, we do have other States around us that have adopted similar legislation as well as we have the National Ground Water Association suggested doctrine and methodologies of emplacement and construction that can be referred to.

But getting back to the original premise I guess of my statement and answering your question, there is that expectation and often times the public is unaware that there may not be a level of oversight when it comes to constructing their well. I have a phrase that I use in my own business in my own contracting business, when I talk to my consumers about well construction and the value of putting in the right amount of casing, the proper gage and material of casing and then grouting that casing which is the filling of the angular space around the casing to prevent the integration or migration of surface waters into that bore hole. That simple expression that I use is, it can cost you several hundred dollars to construct the well properly by these standards that I adhere to in other States that I work in as well as that National Ground Water Association standard that exists, so spend that couple hundred dollars to do it right as compared to spending potentially a couple thousand dollars on the back end to follow up a faulty well construction job with water treatment. Reality of the world that we live in now, ultra violet lights, and I don't want to get caught up too much into pricing details, but you can get them anywhere say from the neighborhood of \$600 to \$2000. Obviously at the upper end you have more bells and whistles, more safeguards, but if one were to say in some instances I can give you examples of where installing 10 more feet of casing, installing a thicker gage of casing, or grouting that casing in place could have saved potentially that \$600 and \$1600 and that's just that one contaminant that

has been the buzz word, the coliform bacteria and also the E.coli problems that we've been seeing.

CHAIRMAN GODSHALL: Representative Ellis.

REPRESENTATIVE ELLIS: Thank you Mr. Chairman, two real quick questions. The first, I commend you six generations, so obviously your family has been doing this for quite some time, now the point was made a little bit earlier that there's no regulations on who can drill, would you support a move in that direction as a small business man an additional fee, an additional license process, would you want that or you confident in your company's word of mouth advertising and your direct advertising that you are a quality company and people will choose you or do you think that we should license everybody?

PRESIDENT REICHART: I think there should be licensing, in fact we're situated, my physical location is 5 miles from the Mason Dixon Line and approximately 50 percent on any given year of our company's business is actually transacted in Maryland. We also engage in services in Virginia, we also work in Southern New York and West Virginia as well. When I cross the line and work in the State of Maryland, I am a licensed, bonded, and insured master well driller. That is a system that is set up where there is an apprenticeship program that then after you demonstrate that you've acquired the amount of knowledge to pass a written test and a brief field supervision and having 2 years worth of experience, you're elevated to the journeymen's level, so on and so forth testing, experience, final larger testing, you are elevated to the masters status and you are then required then to post a bond to ensure that you are going to adhere to the rules of the State of Maryland. That system, when I look at the overall cost of an individual well as well as the individual cost of an overall well drilling and pump operation is of little significance that the cost I'm referring to would be the cost to have individual professional

license and to have the establishment of continuing education provisions within that establishing criteria as well. So I wholeheartedly support it individually as well as for our Association.

REPRESENTATIVE ELLIS: I appreciate that answer and I guess a follow-up to that would be in and we'll use Maryland or Virginia for example, do they have rules and regulations as far as decommissioning a well where they would also have to hire someone like yourself that's certified to decommission a well and clean it up? And what costs are associated with actually cleaning up and decommissioning a well?

PRESIDENT REICHART: Okay, on the first part of your question, yes, the States that do require licensure have it spelled out what an individual can do with that particular license. You're certified in certain areas of the industry, you can work to gain certification on all of them or you can be certified in certain facets if that's what you do.

The second part of your question is a little harder to answer as far as costs that are required for abandonment, is that what you were asking? Those costs typically will be the variables that work will be the depth of the well, the size of the well, the current condition of the well; there are several materials that can be used either individually or combinations of materials can be used to arrive at that cost. We talk in terms of my industry in the southern end of the State of a 200 foot well in a bedrock geologic setting which we have in York County and the surrounding counties that I engage my services in. So to throw a number at you, the cost to abandon a 200 foot well properly by an individual who knows what they are doing is in the neighborhood of \$4-500.

REPRESENTATIVE ELLIS: Thank you very much.

CHAIRMAN GODSHALL: Thank you and Representative Miller.

REPRESENTATIVE MILLER: Thank you Mr. Chairman, I just thought it would be appropriate to point out that Bill's business is located in my district; about 7 years ago he and his father had offered an invitation for me to speak to the Pennsylvania Ground Water Association probably in about 2 weeks you have your meeting or something, about this time of year and it was a learning experience for me and after that discussion I told them when the time was right that I would be prime sponsor of this legislation and we've been in contact over the past 7 years with staff and thank him for his support and input to me and educating me on this subject, so thank you Mr. Chairman.

CHAIRMAN GODSHALL: And Representative Payne.

REPRESENTATIVE PAYNE: Thank you Mr. Chairman, Bill I want to thank you for your testimony, it was very enlightening for somebody who's lived on city water all their life. I mean I think most people who build a home, have a well drilled, they're not on the site, they show up to that house and they're ready to move in on settlement day and they walk in the door and they think the wells drilled, it's done correctly, that somebody's got some standards and more importantly when they turn on the faucet that the water they are drinking is safe.

You are a credit to the industry, it's your kind of firm that we don't have a problem with, I think the concern is everybody else that's out there especially in this economy trying to find a business that they can go and do something and maybe they're not as qualified as they should be.

I think your testimony and the other testimony we heard today proves that Representative Miller had the foresight, and I mean that, Ron was really, it's an excellent bill. I mean how we can be one of two States that doesn't do something is kind of disappointing for Pennsylvanians. And I think we need to move forward with the legislation, we need to look at both the construction of the well and who's drilling that well, how they drill that. And I want to thank

Chairman Preston, Chairman Godshall for doing this informational hearing and I've learned a lot and I appreciate that, thank you.

CHAIRMAN GODSHALL: I just like to ask one more question, I should have asked the geologist I guess. How do you determine where's the proper place to drill the well? You don't use those sticks with that turn in your hand, that doesn't work anymore?

PRESIDENT REICHART: I can, I personally can if you would like, it's one of the phrases that goes by as dowsing, specifically to answer your question from the technical perspective along with this whole subject of water protection, ground water protection, legislation and regulations. The one fault that should be put into it is where do we locate these wells in the first place. They're to be located in an area where the surround, there can be the potential for influence of the well from say road salt when it's put on the road, if it's in close proximity to a septic system, if it is directly across the property line from XYZ Chemical and they had some issues in their past. So, we look in ways of how can we most likely prevent any contamination incident from occurring in the first place and that is through a separation distance between any identified and or potential sources of contamination.

The second thing that we do, we adhere to a standard whereby there should be no well or physical remnants of a well had that exists within 30 feet of a foundation. The reason being is years ago there were a number of wells that became contaminated through a very simple thing that no one gave any thought to, eventually that structure, dwelling, barn building what have you might need some type of treatment for any of a host of number of wood infestation. So we found connections where the well was sometimes in older homes was actually in the basement. The well would be drilled and then the basement would be dug then the house would be built over top of it. The unbeknownst to the pesticide companies, they would come in and treat that dwelling

for some type of wood infestation not knowing their standard procedure was to drill within the foundation or the perimeter of the foundation inject their pesticides, if you will and in instances where the well was in too close of proximity to that introduction of the pesticides and or also in connection with wells that were not properly constructed, meaning they did not have the proper amount of casing, were not properly grouted, that pesticide went into that drinking water supply.

So I believe it was your question earlier that you posted at one of the other testifiers, if I had something in my well how far might it travel? That is a, there are many answers to that question and I don't know if anyone can ever give you the exact right answer but the concept is more important to realize than the answer and the concept to me is that as long as that source of contamination exists within the subsurface and the ground water that it is in connection within your well doesn't stay there for you and you alone to use, it is in continued and propertial motion and will be traveling downstream to your neighbor at some point in time.

The whole premise in my mind, and I should back up and give you a little more background on me, maybe why I'm a little more atypical rather than the regular well driller you may speak to. Prior to coming back into my family business I was educated at Bucknell University and have degrees in civil engineering, so I do look at things a little differently than a lot of my counter parts and I can put a different, look at it from unique perspectives that most of my competitors if you will or counter parts cannot look at them from. But I look at it from a simple perspective is that the whole concept of regulating well construction exists with a single drop of rain. One droplet of rain water falling from the sky, if you envision the way Mother Nature intended for the path for that rain drop to take, it would soak into the soil, continue into the subsoil layers, continually migrating downward into the water table within the unit that we call the aquifer itself. The simple premise when it comes well construction in my mind is when

we construct the well, we want to leave that well head and the subsequent product at least at making it at least it's permeable to that raindrop as what Mother Nature had put there in the first place. So when we talk about things like putting the right amount of casing in, putting the right type of grout in, those two measures are really the principle mechanisms by which we slow the path of that raindrop of water from getting down into the subsurface.

CHAIRMAN GODSHALL: I guess I shouldn't say this but, my house was built before 1830 sometime and guess where the well is?

PRESIDENT REICHART: In the basement.

CHAIRMAN GODSHALL: In the basement, flush with the basement floor and that's why I have public water coming in there starting yesterday and being put in at a considerable cost you know too. That well was done a long, long time ago and it is in a lot of the homes especially in the farm homes that are in the Mennonite, Amish areas and so forth. That is really where the wells were just outside and the house was expanded and it became in the cellar so it's one of those things.

I want to thank you for coming down here, I want to thank you for your testimony, I want to thank the other testifiers for coming in here today. I think the information that was garnered by the committee is invaluable, I had no idea and the one thing when Representative Payne said it is scary that somebody can fill out a piece of paper, give it to DCNR and automatically become a well driller doing whatever they please and how they please in doing it. It's quite an educational session we had here today.

I would like to announce that we did have corresponding letters from the Pennsylvania Chapter of Association of Water Companies, Pennsylvania Council of Professional Geologists, Pennsylvania Environmental Council, The County of Chester, The County of Montgomery, The

Pennsylvania State Association of Boroughs, and Pennsylvania Ground Water Association. So, I think it's something that's being looked at by a lot of people and I'm hoping we can get some positive action. So thank you everybody, with that the meeting is adjourned. Thank you.

(Whereupon, the meeting adjourned at 2:05 p.m.)

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