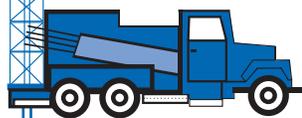


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# Minnesota Well Management News



A Minnesota Department of Health Publication

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## Well and Boring Rule Revision Update

The Minnesota Department of Health (MDH) Well Management Section has been working to revise and update the well and boring rules, Minnesota Rules, Chapter 4725 for several years. We have met with many contractors and other interested parties across the state to discuss the rules, and obtain input and comments on rule change proposals. The draft has been completed, and submitted for approval to start the formal rule making and hearing process. It is anticipated that the formal comment period will occur later this summer. A copy of the notice will be mailed to all persons on our newsletter mailing list, all licensed and registered contractors, all persons on the MDH rules mailing list, and all persons who have requested to be notified. A copy of the proposed rule, and the Statement of Need and Reasonableness, will be mailed to all persons who request a copy. A copy of the proposed rule, Statement of Need and Reasonableness, and comment form will be posted on the Well Management Section's web site at: [www.health.state.mn.us/divs/eh/wells/rules/progamend.html](http://www.health.state.mn.us/divs/eh/wells/rules/progamend.html).

During the comment period, individuals may submit comments for the official record, and/or may request a public hearing. If a hearing, before an Administrative Law Judge, is requested in writing by 25 or more people, it will likely be held this fall in St. Paul, with a teleconference at our district office in Fergus Falls. It is anticipated that the rules will be effective in the winter of 2007/2008. Additional information may be obtained by contacting Ron Thompson at:

Phone: 651/643-2108

FAX: 651/643-2153

E-mail: [ronald.thompson@health.state.mn.us](mailto:ronald.thompson@health.state.mn.us)

Mail: Ronald Thompson

Well Management Section

Minnesota Department of Health

P.O. Box 64975

St. Paul, Minnesota 55164-0975

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## MDH Designates Four Special Well Construction Areas

The Minnesota Department of Health (MDH) has designated three new Special Well Construction Areas (SWCAs) and substantially expanded one existing SWCA. The new, and amended SWCAs are:

- City of Spring Grove and Spring Grove Township (Houston County),
- City of Long Prairie (Todd County),
- City of Perham (Otter Tail County), and
- Cities of Lake Elmo and Oakdale (Washington County) – an expansion of the previous Washington County Landfill SWCA.

Notices designating each SWCA, including maps, were sent to well and boring contractors who work in these areas just prior to the effective date of the SWCA designation. The SWCAs were also discussed at the Minnesota Water Well Association Convention in January 2007 and at the eight MDH Spring District meetings in March-April 2007. Although the specific requirements of each SWCA are unique, reflecting the nature, extent, and magnitude of groundwater contamination, the hydrogeology, and the uses of the groundwater resources; all SWCAs have some common requirements. These include submittal of plans and specifications for MDH review and approval prior to the start of well and boring construction or sealing, phone notification of MDH district staff prior to start of work, specific construction requirements to obtain a safe source, and in some cases, specific monitoring requirements. These requirements are in addition to the notification, permitting, and/or plan review required for all wells and borings.

The goals of the SWCAs are to inform contractors, property owners, and public officials of the nature of the contamination, assure that safe wells are constructed, and to ensure that well construction and sealing practices do not worsen the contamination problem.

The actual notices and supporting documentation for all SWCAs are available on the Well Management Section's web site at: [www.health.state.mn.us/divs/eh/wells/swca](http://www.health.state.mn.us/divs/eh/wells/swca). You may also contact MDH district staff regarding any SWCA within your area.

## Minnesota Legislature Passes New Laws

The 2007 Minnesota legislative regular session is over and a number of bills were passed into law that will affect the drilling industry in Minnesota. Unofficial copies of the bills are on the Revisor's web page at: [www.leg.state.mn.us/leg/statutes.asp](http://www.leg.state.mn.us/leg/statutes.asp). Pull down the menu under Minnesota Session Laws and select "2007 Regular Session" to view the bills.

The Minnesota Department of Health (MDH) proposed changes to increase the "full well contractor" bond from \$10,000 to \$25,000, and to cap the limited license fees at \$225 for three or more limited licenses. These proposals passed, and will be effective August 1, 2007. The changes will affect new license applicants immediately, and current licensees when they renew their license and bond in January 2008. The laws are now Minnesota Session Laws 2007, Chapter 24, but will become part of Minnesota Statutes, Chapter 103I. The limited license and monitoring well contractor bonds will not increase.

The MDH also proposed to increase well and boring fees, with the exception of license fees. A complete list can be found in the law and will be distributed to contractors later. Some of the fee increases include: water-supply well notifications \$215, well sealing notifications \$50, and variance applications \$215. This proposal passed as part of Chapter 147. ***The fee increases will go into effect on July 1, 2008.*** The new fee language will also be added to Minnesota Statutes, Chapter 103I.

Another change, which was not initiated by the MDH, requires the Health Risk Limits (HRL) for groundwater contaminants to be lowered to the federal Maximum Contaminant Level (MCL), if the MCL has a lower standard than the current HRL. The law also requires the MDH to set HRLs for the ten most commonly detected contaminants in groundwater by March 2009. This law resulted from concerns for the lack of a HRL for atrazine, and the differences between some HRLs and MCLs. These bills were placed in Chapter 147.

In Chapter 37, the Minnesota Legislature is requiring that the MDH set HRLs for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) by August 1, 2007. This came about as a result of widespread groundwater contamination problems in Washington County. PFOA and PFOS are chemicals that were manufactured by the 3M Company, and were disposed in several landfills in Washington County in the past. The chemicals, collectively called perfluorochemicals or "PFCs," have since leached into groundwater and have been detected in hundreds of public and private wells in southern Washington County and northern Dakota County. Establishment of HRLs for these two chemicals will aid in triggering cleanup and remediation for those with contaminated wells. HRLs have not been established to date because of inadequate toxicological information for these chemicals. The MDH is currently using Health Based Values (HBVs), which are recommended health limits based on available toxicological information, to evaluate exposure risks of PFCs. The HBV for PFOA is 0.5 micrograms per liter ( $\mu\text{g/L}$ ), and the HBV for PFOS is 0.3  $\mu\text{g/L}$ . *(A third PFC chemical, named "perfluorobutanoic acid" [PFBA], has also been detected in a large number of public and private wells. There is currently very little toxicological data on this chemical. The MDH believes that it is less toxic than PFOA and PFOS, and has established a recommended exposure level of 1.0  $\mu\text{g/L}$  for PFBA in drinking water.)*

In Chapter 57, the Minnesota Legislature provided the MDH with an appropriation to test point-of-use water treatment devices for PFOS, PFOA, and PFBA removal. Information generated will assist private well owners in determining which point-of-use water treatment devices are appropriate for PFC removal. The MDH is developing a work plan and anticipates awarding contracts to a private testing company to do the testing in the near future. The findings will be published in a report in 2008.

## Statewide Plumbing License Required

The 2007 Minnesota Legislature passed Laws of Minnesota, 2007, Chapter 140, that requires, with a few exceptions, all persons doing plumbing to be licensed after December 1, 2007. Previously, licensure was only required when working in cities with a population over 5,000. The law establishes two new licenses, a restricted journeyman and a restricted master plumber license. Applications for these licenses must be submitted before January 1, 2008. For more information, contact the Minnesota Department of Labor and Industry at 651/284-5067, or on the Internet at: [www.doli.state.mn.us/plumbing](http://www.doli.state.mn.us/plumbing).

## Drilling Machines and Pump Hoists Exempt from New "Crane Law"

In May 2005, legislation (Minnesota Statutes, section 182.6525) was enacted requiring operators of "cranes" to be certified by the Minnesota Department of Labor and Industry (DLI) by July 1, 2007. The legislation applied to operators using cranes at construction sites with a lifting capacity of 5 tons or more. Both the Minnesota Department of Health (MDH) Well Management Section and the Minnesota Water Well Association (MWWA) recognized that a large percentage of pump hoists, and some well and boring drilling machines, would potentially fall under this regulation. After communications among the MDH, MWWA, and DLI; the DLI quickly determined that the law did not apply to "well drilling derricks," but inclusion of pump hoists remained something of an open question. On March 9, 2007, the DLI informed the MWWA that "truck body hoists," such as pump hoists, not installed on overhead traveling cranes, or mobile or locomotive cranes, are outside the scope of the law requiring a DLI-certified operator. The DLI specifically noted Smeal and Semco as examples of pump hoists exempted from the certification requirement.

Drilling machines and pump hoists used in the course of well and boring work must be registered with the MDH (see Minnesota Statutes, section 1031.545 and Minnesota Rules, parts 4725.1700 and 4725.1800). This requirement was not affected by either the 2005 legislation or the decision by the DLI to exempt operators of this equipment from crane operator certification.

## Appointments to Advisory Council on Wells and Borings

On February 27, 2007, Commissioner Diane Mandernach appointed three new members, and reappointed four members to the Advisory Council on Wells and Borings. The new well contractor members are Brian Hartmann, Hartmann Well Drilling Company, New Prague, Minnesota; and Roger Renner, E.H. Renner and Sons, Inc., Elk River, Minnesota. Greg Scallon, Braun Intertec Corporation, Bloomington, Minnesota, was appointed as a monitoring well contractor member. Mr. Scallon's appointment was for the remaining one year of a position that had been vacant. David Traut, well contractor member, Mark J. Traut Wells, Inc., Waite Park, Minnesota; Daniel England, explorer member, Eveleth Fee Office, Eveleth, Minnesota; Rick Nash, vertical heat exchanger member, Dedicated Geothermal, LLC, Winsted, Minnesota; and John Young, Jr., public member from Hawley, Minnesota were reappointed.

The council meets quarterly, usually on the first Wednesday of March, June, September, and December. Meetings are held in St. Paul. Members are reimbursed for meals, travel, and lodging and also receive a \$55 per diem per meeting attended. The council advises the commissioner and the department on a variety of issues involving the regulation of wells and borings. The council assists in the examination of license applicants; makes recommendations on Minnesota Department of Health policies, rulemaking, and statutory initiatives; and provides technical review and information. The council also provides a forum for contractors to raise industry concerns.

The seats of three well contractor members, one elevator contractor member, one monitoring well contractor member, and one public member will become vacant, effective January 2008. Information on the council, the application process, and current membership can be found at:

[www.health.state.mn.us/divs/eh/wells/lwcinfo/advisory.html](http://www.health.state.mn.us/divs/eh/wells/lwcinfo/advisory.html).

If you are interested in applying for upcoming vacancies or if you have any questions about the advisory council, you may contact Mike Convery at 651/201-4586.

## Sewer Testing

In Minnesota, the minimum isolation distance allowed between a water-supply well and a sewer is 50 feet. The well rules allow the distance to be reduced to 20 feet for some wells, and some sewers that are constructed of approved materials and are tested in accordance with the Minnesota Plumbing Code, which is now administered by the Minnesota Department of Labor and Industry (DLI).

The most common sewer testing method is the "air test." It involves pressurizing the sewer pipe with air to a pressure of 5 pounds per square inch (psi). In order to pass the test, the sewer pipe must hold 5 psi for 15 minutes with no pressure loss.

The Minnesota Plumbing Code also allows a manometer test for testing sewers, and therefore so does the Minnesota Department of Health (MDH.) A manometer test is typically done after all plumbing fixtures (sinks, toilets, etc.) are set. The fixture traps are filled with water and all vents are plugged. Air is introduced, and the system passes if a 1-inch water column is maintained. The length of the test is not specified in rule or DLI policy. The DLI recommends 5 minutes for a short run of pipe or a few fixtures; 15 minutes for a whole house. The DLI relies on the plumbing inspector and the integrity of the person doing the test.

The plumbing code also allows a hydrostatic test, but only for plastic pipe. The hydrostatic test is conducted by plugging the downstream end of the pipe and then filling it with water so that there is at least 10 feet of head (4.3 psi) above the pipes to be tested. The test is run for 15 minutes while the pipe is visually inspected for leaks. The MDH also accepts this test. For the most part, neither the manometer nor hydrostatic tests are commonly used to test sections of buried sewer pipes near wells.

The DLI interprets that a test on a building sewer is "plumbing," which means that the test must be done by a person with a \$25,000 plumbing bond, even in areas where the plumbing code is not in effect. The only exception is for an owner and occupant who can do their own plumbing, including testing, without a bond or license, on their own residence. The plumbing bond is required of any contractor doing testing on plumbing, including licensed and bonded well contractors and Minnesota Pollution Control Agency licensed and bonded ISTS installers. The well contractor bond does not give the well contractor the right to test sewers. The only plumbing that DLI has allowed to be done under the well bond is the installation of the water pipe connecting the well to the home or building.

The plumbing licensing law was just amended this past legislative session to require statewide plumbing licensure, or certification with the pipe layers card effective December 1, 2007. ***This appears to mean that after December 1, 2007, only a licensed plumber, licensed restricted plumber, certified pipe layer, or a property owner will be allowed to test a buried sewer pipe.***



**Air testing of a residential, buried sewer pipe in Afton, Washington County, Minnesota.**

Where the plumbing code is in effect, the DLI requires that the test must be witnessed. DLI prefers a government official, but has accepted a "disinterested third person," particularly in rural areas where a local inspector is not available. In cases where the plumbing code is not in effect, and the test is done for the well setback, the MDH is not requiring a witness, except when the test is done by the property owner (who has no bond or license), in which case the witness must be a government official (including an MDH inspector) for the MDH to accept the test.

## Arsenic Sampling

The new well rule amendments propose to require the person constructing a water-supply well to collect a water sample and have it analyzed for arsenic at a certified laboratory within 30 days of completing the well, and before placing the well into service. The person constructing the well must also send a copy of the results to both the property owner and the Minnesota Department of Health (MDH) within 30 days of analysis and must inform the well owner that the well must not be used for human consumption until after he/she receives the arsenic results.

The laboratory doing the arsenic analysis must be certified by the MDH. The laboratory's reporting limit for arsenic must be no greater than 2.0 micrograms per liter ( $\mu\text{g/L}$ ). Arsenic analysis must be done using either a Graphite Furnace (electro thermal atomic absorption spectrometry) or an ICP (inductive coupled plasma mass spectrometry) analysis technique. Contractors may have to use a separate bottle for the arsenic sample in addition to the bottles necessary for coliform bacteria and nitrate-nitrogen analysis.

Water samples collected for arsenic analysis must be obtained from an untreated faucet. It is recommended that at least three casing volumes of water be pumped from the well, by a method other than air lifting or surging, before water samples are collected. The samples should be collected from a steady, clear stream of water. The water samples may be refrigerated, but this is not a requirement.



**After the new rules go into effect, testing of water samples for arsenic will be required for all new wells, and must be done at a laboratory certified to perform arsenic analysis.**

The U.S. Environmental Protection Agency establishes drinking water standards called Maximum Contaminant Levels (MCLs), for contaminants in public-water systems. The current MCL for arsenic is 10  $\mu\text{g/L}$ . When the EPA establishes a MCL, it considers not only the health risks, but also the cost and technical difficulty of removing the contaminant down to that level. Arsenic can occur in the environment naturally at levels that often exceed 10  $\mu\text{g/L}$ . While health risks from drinking water with arsenic below the MCL are low, they are not eliminated entirely. MCLs only apply to public-water systems.

Drinking water from private water-supply wells is not required to meet federal MCLs. The MDH has established drinking water standards called Health Risk Limits (HRLs), for some contaminants in private water supply wells. A HRL has not been established for arsenic yet. Consequently, the MDH

recommends that private well owners do not consume water with more than 10 µg/L of arsenic. If water from a private well has more than 10 µg/L of arsenic, the MDH recommends that the well owner pursue one of the following options to limit exposure:

1. Installation of a water treatment system such as reverse osmosis, distillation, or cartridge type removal systems specifically designed to remove arsenic.
2. Construction of a new well that obtains water from another aquifer that has less than 10 µg/L arsenic.
3. Connection to a public water-supply system if available.
4. Use of bottled water for drinking or cooking.

## Well Construction and Well Sealing Statistics in Minnesota, 2006

The Minnesota Department of Health Well Management Section has received 11,610 Well and Boring Construction Records, and 10,411 Well and Boring Sealing Records for the year 2006. New well and boring construction totals decreased 12 percent in Minnesota since 2005, and well sealing totals decreased almost 3½ percent during the same period. A comparison of the number of wells and borings constructed and sealed in Minnesota in 2004, 2005, and 2006 is provided below, along with a listing of the top five counties for well construction and well sealing in Minnesota in 2006.

### Well and Boring Construction and Sealing Totals in Minnesota 2004, 2005, and 2006

	2004	2005	2006
<b>Number of Wells and Borings Constructed in Minnesota</b>	14,984	13,184	11,610
<b>Number of Wells and Borings Sealed in Minnesota</b>	11,920	10,791	10,411

#### Minnesota Year 2006 Well and Boring Construction Top 5 Counties

County	Number of Wells and Borings Constructed in 2006
Crow Wing	832
Cass	594
St. Louis	569
Otter Tail	541
Anoka	479

#### Minnesota Year 2006 Well and Boring Sealing Top 5 Counties

County	Number of Wells and Borings Sealed in 2006
Hennepin	1,906
Ramsey	546
Anoka	488
Crow Wing	435
Stearns	352

## Firefighters Rescue Donkey From Well

*(The Sheboygan Press, Sheboygan, Wisconsin [AP])*

Firefighters used a harness and a tow truck to pull a donkey from an old well Friday (*June 8, 2007*) after it fell 15 feet down the well. "The rescue happened about an hour and a half after the fire department responded to a 10 a.m. call to the home of Francis and Karee Abbott," Fire Chief Ron Nicolaus said.

The 400-pound animal wandered onto wood planks that covered the well Friday morning. They broke, dropping the donkey down the hole.

A veterinarian examined the donkey after it was pulled up in the sling. "From what the vet could tell, there were no broken bones or anything," Nicolaus said. "They gave him a sedative and that takes a couple hours to wear off, so they really don't know about everything else."

## Spring District Meetings

The Minnesota Department of Health (MDH) Well Management Section held a series of eight evening meetings around the state in late March and early April 2007 to meet with well and boring contractors and other interested parties on a variety of issues involving regulation of wells and borings. Meetings were held in Bemidji, Duluth, Fergus Falls, Mankato, Marshall, Rochester, St. Cloud, and St. Paul. This was the seventh year that the MDH has conducted the spring district meetings. Approximately 115 persons attended the meetings. Attendance was lower than normal in Bemidji and Fergus Falls due to a late season snowfall.

Items discussed at all of the meetings included new appointments to the Advisory Council on Wells and Borings, 2007 legislative initiatives, new MDH publications, demonstration of the Well Management web site, arsenic testing, Special Well Construction Areas (SWCAs) designated since the 2006 meetings, and the change in the newsletter distribution (now available only electronically). An update on the proposed revisions to Minnesota Rules, Chapter 4725 was provided. The official rule making process and hearing, if requested, should be held in the fall.

District staff, contractors, and others present raised issues of local concern at individual meetings. District staff provided local information including statistics on well construction and sealing activities. Specific SWCAs were detailed in the districts where those areas are located. The findings of the St. Lawrence Formation Study conducted by the Minnesota Geological Survey (MGS) were discussed at the Mankato and St. Paul meetings. Flowing well construction was discussed extensively at the Marshall meeting. Andrew Streitz of the Minnesota Pollution Control Agency described the agency's ambient groundwater quality monitoring program at the St. Cloud meeting. Water treatment options for arsenic removal were addressed at the Fergus Falls meeting. At the Duluth meeting, contractors raised a variety of issues regarding hydrant installations, particularly on public water-supply systems, inconsistencies among local Individual Sewage-Treatment System programs, and electrical work that can and cannot be performed by well contractors. At a number of meetings, contractors indicated that they are unable to access information available on the Internet, such as the Well Management Section's newsletter or the County Well Index well record program, because of limited or unavailable Internet service in their area.

At many of the meetings, contractors discussed a variety of issues involving rural water systems, and the proposed Western Prairie Rural Water System (WPRWS) in west-central Minnesota. Contractors were concerned about some of the information being disseminated by the WPRWS system promoters regarding natural groundwater quality and availability, regional health problems reportedly linked to groundwater quality, and well construction costs. Well contractors stated that some of this information was misleading and was being used to convince potential customers that they should register to join a rural water system. Contractors from areas served by existing rural water systems discussed some of the benefits of the systems where they are needed, but listed some problems experienced by these systems, such as user costs, system maintenance, and poor supply at times (either pressure or quantity). Well contractors at the Marshall district meeting noted that they have recently constructed new wells for some animal operations in the area that are served by rural water systems, because the cost of obtaining large quantities of water from the rural water system is expensive.

## Enforcement Update

The Minnesota Department of Health (MDH) Well Management Section has several enforcement tools that it can use to obtain compliance with Minnesota statutes and rules. These enforcement tools range from simple on-site corrections at the request of an inspector, to more formal "Notice of Violation" letters requesting that corrections be made by a deadline, to administrative penalty orders that require correction and assess a forgivable monetary penalty if the correction is made by a deadline, or a nonforgivable penalty. In most instances the MDH can obtain compliance with informal enforcement. In a small number of cases, enforcement must be escalated to an Administrative Penalty Order, bond claim, or license action. In addition to administrative remedies, the MDH may use the civil courts for legal remedies. The following three cases (a criminal case brought by a local delegated program and two recent MDH cases) are instances where enforcement resulted in court actions.

### **Case No. 1 - Permanent Injunction:**

A formerly licensed well contractor failed to submit reports, permits, and notifications necessary to complete license renewal. After the contractor's license expired, the contractor continued to perform well drilling work, refused to comply with the rule requirements, and refused to cease work. The MDH subsequently filed a motion in district court for injunctive relief. On September 28, 2006, the district court issued a permanent injunction that ordered the former licensee to cease performing regulated activities without a valid license and to submit the missing reports, permits, and notifications.

### **Case No. 2 - Judgement Satisfied:**

In 2001, the MDH issued an Administrative Penalty Order (APO) to the owner of an unused, unsealed dug well who had refused to seal the well. The well owner failed to comply with the APO and was assessed a monetary penalty of \$1,000. The well owner still did not seal the well and did not pay the fine. The MDH petitioned the district court to file the APO as an order of the court. During this time, the well owner lost the property for tax forfeiture. Ownership of the property reverted back to the county, and the county hired a well contractor to permanently seal the well.

Some time later, the former well owner tried to refinance another property he owned. The title insurance company discovered the APO judgment against him and would not approve refinancing until he paid the APO penalty and obtained a satisfaction of judgment. He eventually paid the fine.

**Case No. 3 - Criminal Action:**

In 2006/2007, the MDH provided assistance to a local delegated well program and a county attorney after they discovered that a well contractor had billed a well owner for well sealing, and provided a well and boring sealing record, but never sealed the well.

The local well program first became aware of this problem during routine follow up on a well that was disclosed as "not-in-use" and "not sealed." A representative from the local delegated well program inspected the well and discovered that the well had not been sealed. The property owner produced a signed copy of a well sealing record stating that the well had been sealed. Due to the seriousness of the violation, the matter was referred to the county attorney for enforcement. MDH staff discussed the violation with the county attorney and together they determined that the county attorney could file the violation as:

1. A felony for violation of Minnesota Statutes, section 609.63 (forgery) or section 609.625 (aggravated forgery), and
2. A gross misdemeanor under Minnesota Statutes, section 103I.715, subdivision 2, for willful violation of Minnesota Statutes, Chapter 103I and Minnesota Rules, Chapter 4725, by providing false information.

These were criminal court actions. Therefore, the enforcement actions were against the individual (certified representative) rather than against the business entity (the licensee). The individual waived jury trial and plead guilty to the gross misdemeanor charges. The individual was given a stay of imposition wherein if the individual does not commit the same, or similar offenses; the charges would be reduced to misdemeanor offenses after two years. The individual was ordered to pay costs of \$500, with \$250 of those costs stayed for two years if the individual does not commit the same or similar offenses.

**Enforcement Totals for Calendar Year 2006**

District Court	2
Mediation Services	0
Correction Order	0
Administrative Penalty Order (APO)	3
10-day letter	8
Compliance Agreement	0
Stipulated Agreement	9
Notice of Violation (NOV)	96
Letter of Warning (LOW)	2
<u>Onsite Correction/Minor Violation</u>	<u>107</u>
<b>TOTAL</b>	<b>227*</b>

\*Enforcement Total Breakdown:

Escalated Enforcement Actions	22
Other Enforcement Actions	205

## Improper Well Construction and Sealing Practices – A Problem for Everyone

Poor well construction practices, such as improper grouting, can lead to contamination of individual wells, and in some cases groundwater aquifers. Poor wells can also damage the credibility of groundwater as a safe drinking water supply, and can lead to justifying the construction or expansion of public water systems in areas that could have remained serviced by private water-supply wells.

The Minnesota Department of Health (MDH) is routinely asked to evaluate the construction of individual wells when well owners have water quality problems. Items such as broken well caps, water system cross connections, or even cracked well casings or pitless unit connections are relatively easy to identify. Other times, finding the source of a problem can be quite difficult, particularly if the problem is with the grout seal, which is not readily available for inspection.



**Failure to fill the annular space surrounding the well casing with approved grout is a problem for the well owner, a violation for the well contractor, and can lead to contamination of the well and the aquifer...**

This past summer, the MDH evaluated the construction of a well in west central Minnesota that was drilled in 1992 using the mud rotary drilling method. The well construction record stated that the well was 55 feet deep and constructed through a clay-confining layer from 13 to 47 feet below the ground surface. In addition, the construction record stated that the annulus around the well casing was grouted with neat-cement grout from 9 to 39 feet below the ground surface. Based on the record submitted by the contractor, the well appeared to be properly constructed and the neat-cement grout that was placed through the clay-confining layer should have provided additional protection for the well.

Excavation around the casing was done to verify that neat-cement grout was present around the casing as stated on the well construction record. With MDH staff on site, the well was excavated to just below the pitless unit. There was no evidence of neat-cement grout around the well casing. The annular space around the casing was wide open to a depth of 47 feet. The well contractor was required to properly fill the open annulus with neat-cement grout from 47 feet to the base of the pitless unit. The open annulus around the well casing compromised the protective clay layer and could have acted as a direct conduit to allow contamination to enter the aquifer.

Inadequate grouting of wells and inaccurate construction information can lead people to the wrong conclusion when evaluating water quality information. It may result in people erroneously thinking that an aquifer is contaminated and thus no longer usable. Every time a well, or localized area of groundwater becomes contaminated for undetermined reasons, it adds one more piece of evidence that can be used to support the extension of municipal or rural water systems.

Preserving the quality of the groundwater in Minnesota is in everyone's best interest. As a licensed well contractor you can do your part to protect the groundwater quality and your business interests, by properly constructing and sealing wells.

## Sewage Drainfield Installed Too Close to Shallow Well

In the fall of 2005, a Sherburne County zoning official contacted a Minnesota Department of Health (MDH) Well Management Section inspector and asked how he could determine if an existing well was not a "shallow well." A citizen was applying for a permit to construct a sewage drainfield on their property, and the depth of the water-supply well two lots away, but within 100 feet, was not known. The inspector explained that the MDH would accept a well record, or a written statement from a licensed well contractor who inspected the well and made a determination that the well had at least 50 feet of watertight well casing or was cased through at least 10 feet of clay.

The zoning official later faxed a statement to the MDH that was signed by a licensed well contractor. The statement indicated that the well two lots away was 2-inches in diameter and was over 50 feet deep.

The county approved the installation of a drainfield on the property. Shortly thereafter, the property owner where the 2-inch diameter well was located, called the MDH and insisted that his well was not a deep well and that the drainfield was installed less than 100' from his well in violation of the well code. The property owner also indicated that he had not given permission to anyone to inspect his well to determine its depth.

After questioning, the well contractor admitted that he did not obtain permission to work on the well, and did not remove the packer jet from the well before measuring it. The well contractor said that he actually had opened the well and dropped a tape measure down the casing to the top of the packer. He added this measurement to the depth of the well pit and *guessed* that the well had at least 50 feet of casing.

The owner of the 2-inch well agreed to allow the well contractor to open up the well and pull the packer jet to measure the well, as long as he guaranteed to return the well to its original operating condition when he was done. The well contractor removed the packer jet and found that the packer was at the bottom of the casing, and that the well was only 39 feet deep. The property owner with the shallow, 2-inch diameter well would not allow it to be sealed, and would not accept a new "deep" well, paid for by the person in need of a new drainfield.

The sewer contractor constructed a new drainfield in a complying location and removed the noncomplying drainfield.



### MINNESOTA WELL MANAGEMENT NEWS

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**Editor:** Patrick Sarafolean, 651/643-2110

**Contributors:** Well Management Staff unless otherwise noted.

*To request this document in another format, call 651/201-4600 or TDD through the Minnesota Relay Service, 800/627-3529 and ask for 651/201-4600.*

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## Plan to Dig? Call 811 First

(By Nancy Yang, Pioneer Press, 5/1/2007)

Beginning May 1, 2007, Minnesotans now have a new, shorter number they can call before digging to locate underground pipelines (*editor's note – this includes all buried utilities; not just "pipelines"*). The new 811 number will allow Minnesotans to reach the Gopher State One-Call Center, where people who plan to dig beneath private land or public grounds can easily request utility location services. That three-digit number complements the existing call center web site, [www.gopherstateonecall.org](http://www.gopherstateonecall.org) and the two phone numbers available: 651/454-0002 or 800/252-1166.



A national survey conducted by the Common Ground Alliance - a national coalition of 1,400 excavators, state utility regulators, and others affiliated with the installation and protection of underground utilities - shows only 33 percent of homeowners have utilities marked before they begin digging projects. Last year, Minnesota's second-leading cause of utility damage was failure to have utility lines located before digging.

## Cost Share and Loan Availability for Well Construction, Repair, and Sealing

A list of cost-share grant or loan programs for well sealing, organized by county, is available from the Minnesota Department of Health (MDH) Well Management Section web site at: [www.health.state.mn.us/divs/eh/wells/sealing/costshare.html](http://www.health.state.mn.us/divs/eh/wells/sealing/costshare.html). Preapproval is required to qualify for these programs so the arrangements for cost-share grants or loans must be made before a well is sealed. Please contact the program directly for application information. State law requires that a licensed well contractor do well sealing work.

Several federal and state loan and grant programs for well construction, repair, and sealing are listed on the Well Management Section web site at: [www.health.state.mn.us/divs/eh/wells/sealing/loans.html](http://www.health.state.mn.us/divs/eh/wells/sealing/loans.html). This list now includes a new program called the Foundation for Affordable Drinking Water, which offers low-interest loans for construction, refurbishing, and servicing of household water well systems.

To find a licensed well contractor, look in the Yellow Pages under "Well Drilling and Services" or visit the MDH Well Management Section, Directory of Licensed/Registered Contractors web site at: [www.health.state.mn.us/divs/eh/wells/lwc](http://www.health.state.mn.us/divs/eh/wells/lwc).

The information on cost share and loan availability for well construction, repair, and sealing is also available in a fact sheet. To request a printed copy, please contact the Well Management Section at 651/201-4600 or toll-free at 800/383-9808.

## Delegated Well Programs

Wells and borings are regulated in Minnesota under Minnesota Statutes, Chapter 103I, and Minnesota Rules, Chapter 4725. The Minnesota Department of Health (MDH) is responsible for implementing the law and rules; however, the law allows a local community health board to take over some of the inspection and permitting activities from the MDH. Activities that are not delegated include licensing and registration of contractors, registration of drilling equipment, regulation of borings other than elevators, and regulation of construction and sealing of community-public wells.

Local governments may choose to adopt portions of the state program. Those activities not delegated within a city or county remain the responsibility of the state, along with the activities listed above. At the present time, two cities and eight counties have delegation agreements with the following responsibilities:

<a href="#">City of Bloomington</a>	Water, Monitoring, and Dewatering Well Programs	952/563-8934
<a href="#">City of Minneapolis</a>	Water and Monitoring Well Programs	612/673-5807
<a href="#">Blue Earth County</a>	Water Well Program	507/304-4381
<a href="#">Dakota County</a>	Water, Monitoring, and Dewatering Well Programs	952/891-7556
<a href="#">Goodhue County</a>	Water Well Program	651/385-6130
<a href="#">LeSueur County</a>	Water Well Program	507/357-8231
<a href="#">Olmsted County</a>	Water, Monitoring, and Dewatering Well Programs	507/285-8213
<a href="#">Wabasha County</a>	Water Well Program	651/565-5200
<a href="#">Waseca County</a>	Water Well Program	507/835-0655
Winona County	Water, Monitoring, and Dewatering Well Programs	507/457-6405

### **Program Issues**

**Local Requirements** – Local delegated well programs may require a permit where the MDH requires a notification. Local programs may also establish fees higher or lower than what the state of Minnesota charges for the same activity, and may adopt stricter construction and sealing requirements.

**Variations** – The MDH, and in some cases the delegated program, must review and respond to variance requests from state rules.

**Well Records and Samples** – When working in a delegated jurisdiction, contractors must send the "MDH" and "local" copies of well construction and sealing records, along with water sample results, to the delegated program. The local program will forward the state copy to the MDH.

**Noncommunity Public Wells** – Noncommunity public wells such as those serving parks, restaurants, churches, or schools, are regulated by the delegated program.

**Community Wells** - Community-public wells are regulated by the MDH. Other wells, some contractors refer to as "*test wells*," drilled to test aquifer yield or to supply water for the construction of a community well, are regulated by the delegated program. They may not be converted to community wells. In order to construct a community well, plans and specifications drafted by a professional engineer, must be submitted to the MDH, and must be approved in writing by the MDH, before construction may begin.

## New Contractors

The following persons have become certified representatives for licensed contractors since the last issue of this newsletter was published and distributed.

### **Well Contractor**

Aaron M. Bauer  
Kimmes-Bauer Well Drilling Inc.  
Hastings, Minnesota

Kevin J. Fideldy  
Fideldy Brothers Well Drilling  
Bovey, Minnesota

### **Monitoring Well Contractor**

Clinton D. Jordahl  
Bonestroo, Anderson, Rosene, & Assoc.  
St. Paul, Minnesota

### **Pitless/Screen Contractor**

Jerry R. Dreesen  
Orv's Plumbing and Heating  
Ellsworth, Minnesota

### **Explorer**

David J. Mael  
Kennecott Exploration Company  
Las Cruces, New Mexico

### **Individual Contractor**

Jammie H. Wieling  
Melrose, Minnesota

## Continuing Education Calendar

The Internet link to the Minnesota Department of Health, Well Management Section's Continuing Education Calendar is: [www.health.state.mn.us/divs/eh/wells/lwcinfo/training.html](http://www.health.state.mn.us/divs/eh/wells/lwcinfo/training.html)

This calendar lists the upcoming continuing education courses that have been approved for renewal of certification for representatives of Minnesota licensed and registered well and boring contractors. The calendar also lists the number of credits available for each course. The calendar is updated monthly and, if you subscribe, you will be notified by e-mail when this page changes (new classes added, changes to existing classes).

For additional information about any of these training opportunities, call the contact person listed for the program of interest. For general information about continuing education, or to discuss these or any other courses not listed, contact: Tom Alvarez, MDH Well Management Training Coordinator, 651/201-4581 or [tom.alvarez@health.state.mn.us](mailto:tom.alvarez@health.state.mn.us).



## Minnesota Well Management News

### **Minnesota Department of Health Well Management Section**

Freeman Building  
625 North Robert Street  
P.O. Box 64975  
St. Paul, Minnesota 55164-0975  
651/201-4600 or 800/383-9808