

KENTUCKY WATER WELL DRILLER'S QUARTERLY

Winter/Spring 2014 – 2015
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Proper Completion of Well Records

Groundwater Staff

There continues to be problems with the submittal of water well construction and plugging records. The division continually receives records that do not have adequate owner information required for proper entry into the database. Please take the time to ask your client for his full legal name and record it. If it is a business or organization, please list the full name of the business or organization. Then enter the mailing address of the property owner. This is where the owner of the property receives his mail. This can be a post office box, general delivery, rural route number, or street number, plus the city or town, with the zip code. Next, list the daytime phone number of the property owner. It can be a landline or a cell phone number, but it should be in the name of the property owner whether it is an individual or a business.

If the name, address and telephone number of the property differs from the property owner's information, be sure to enter that information on the form as well. Use the 911 address if available. If not, the street or road address with the nearest city or town and zip code is acceptable. If none of this information is available, then write in directions and distances to the nearest town or paved road intersection, and describe a point that can be found on a topographic or road map.

Another issue is with the attachments. Ensure the following attachments accompany the well construction and plugging records:

Topographic Site Maps and Sketch Maps -- The Uniform Kentucky Well Construction Record, the Combined Well Construction/Plug Record and the Uniform Kentucky Well Maintenance and Plugging Record all require the driller to submit both types of maps.

Include the topographic site map for use in locating the well site against the backdrop of Kentucky. Ideally, it should include nearby towns, streets and roads, major water bodies, etc. The map identifies the physical location of the well(s) as provided by the driller.

Include a sketch map for close-up examination of the site. It should contain landmarks that are particular to the site. If the Kentucky Division of Water (DOW) has to visit the site, we would like to know if the well is behind the house, beside the barn, or over the hill in a thicket of trees. A driller should put as much detail in the sketch map as possible in order for the well to be located quickly.

DOW recognizes the difficulty in obtaining and locating the position accurately on a topographic map. To assist with this requirement, the driller may submit a Global Positioning System (GPS) location (latitude and longitude) in place of the topographic site map. However, if the driller decides to submit GPS coordinates, use an onsite hand held device for the latitude and longitude. Record GPS coordinates as degrees, minutes, and seconds, degrees and decimal minutes, or as decimal degrees. Decimal degrees are the preferable method. Many people are using internet search engines or some other type of web service to get GPS coordinates. These methods are not as accurate, and are not acceptable as a substitute for the submittal of a site topographic map.

Submit a **well diagram** with your construction and plugging records if the well in question is a monitoring well. The well diagram is an as-built drawing showing how the well was constructed. Kentucky Administrative Regulation, 401 KAR 6:350, requires a well diagram. A well diagram is not required for records involving water wells, but it is useful when submitted.

A **Total Coliform and *E. coli*** analysis requires submission of all three well records if the activity involves new well construction or well maintenance and rehabilitation activities that compromise the sealed integrity of the well. Submit the results of any Total Coliform and/or *E. coli* samples collected during these activities along with the appropriate well record form.

Submit a signed and approved **variance request** with your well record if modification of the well construction, and/or well abandonment procedures differs from the regulatory requirements of 401 KAR 6:310 and 6:350. The variance requires signatures by the driller, the well owner and the program coordinator to be considered approved.

Finally, the submittal of other **laboratory analysis results** is optional. However, DOW recommends that if these analyses are taken as a result of well construction, abandonment or maintenance activities, then it is beneficial to all to have these results submitted as part of the official well record.

Notes from Scotty

By Scotty Robertson

Item 33 on the Uniform Kentucky Well Maintenance and Plugging record is not a checklist for you to choose how you want to plug a well. The nine methods listed in Item 33 are all approved methods for the abandonment of water wells.

1. Casting cut off (minimum 5 feet Below Ground Level (BGL)), borehole filled with gravel/sand bottom to Static Water Level (SWL) and grouted SWL to top
2. Casting cut off (minimum 5 feet BGL), borehole grouted bottom to top
3. Hole drilled, well not set, plugged
4. Permanent bridge installed over void, borehole filled with gravel/sand bottom to SWL and grouted SWL to top
5. Permanent bridge installed over void, borehole grouted to top

6. Well casing pulled, borehole filled with gravel/sand bottom to SWL and grouted SWL to top
7. Well Casing pulled, borehole grouted bottom to top
8. Well over drilled, casing-screen-grout-filter pack removed, borehole filled with gravel/sand bottom to SWL and grouted SWL to top
9. Well over drilled, casing-screen-grout-filter pack removed, borehole grouted bottom to top

The method that the driller selects from this list is determined by the subsurface geology and the well's construction, and it must meet the requirements set forth in 401 KAR 6:310 Section 11, subsections 3 through 7, for these two conditions. For example, if the driller were to plug a driven well, then the driller is required to follow 401 KAR 6:310 Section 11, subsection 6. This subsection requires that all casing and screens be removed from the borehole and a sealing material be introduced simultaneously from the bottom of the well to within 5 feet of the finished ground surface, and then filled with a suitable inert material to the proposed land use.

Once this is accomplished and the driller is ready to report, he or she should select Method 7 from Item 33 as the plugging activity. If the driller selects any other method than Method 7 for abandonment of a driven well, then he or she needs to check with the water well program coordinator to see if a variance is required.

If any monitoring well is being plugged, then 401 KAR 6:350 Section 11, subsection 2 applies. This section requires over drilling and the removal of all casing screen and annular material from the borehole, and that the borehole then be grouted from bottom to top with a sealing material. Method 9 in Item 33 is the only method that meets this requirement. Any other method chosen for monitoring well abandonment will require an approved variance from DOW.

Water well abandonment also requires the removal of all materials, casing, screen, and pump. Any materials not removed from the water well should be pushed to the bottom and covered with a grout material. Generally, backfilling of the well from the bottom to the top of the water level with an appropriate grout, sand or gravel, which has been disinfected, to within 20 feet of the land surface is allowed.

Backfilling from the top of the sand and gravel to within 3 feet of the land surface, with a sealing material and capping the borehole with a material which will be compatible to the final land use, is the only approved method for abandonment of a water well without an approved variance request. When the water well casing cannot be removed, the casing can be cut off a minimum of 5 feet below ground level, however, you must have an approved variance to do this or any other abandonment method.

The Kentucky Ground Water Association website is now available at www.kygroundwater.com.

Well Record Forms

Many of the forms located on DOW's website for water well drillers are multiple use forms intended for use as either a monitoring well or water well construction and abandonment. Below is a list of forms and their use:

- Uniform Kentucky Well Construction Record: Used for both new water wells and monitoring wells.
- Uniform Kentucky Well Maintenance and Plugging Record: Used for existing water wells and monitoring wells.
- Water Well Bacterial Report (DEP 2012): Used for water wells only.
- Combined Kentucky Well Construction/Plug Record: Used for temporary monitoring wells only, i.e. those wells intended to be installed and removed within 72 hours. The form is not to be used for dry holes drilled for water wells.
- GPS Location Form DD (decimal degrees): Used with either monitoring wells or water wells.
- GPS Location Form degrees, minutes and seconds: Used with either monitoring wells or water wells.
- 2013 Monitoring Well Variance Request Form: Used when a monitoring well driller who is not certified to abandon water wells, seeks permission from the Cabinet for a one-time abandonment of a water well.
- 2013 Water Well Variance Request Form: Used only for water wells. No variance is given to water well drillers to abandon monitoring wells.

Forms are available at the following website:

<http://water.ky.gov/groundwater/Pages/FormsApplications.aspx>

Down-Hole Well Camera Water Well Inspections

The Groundwater Section of the DOW continues to provide down-hole well camera inspections for Kentucky certified water well drillers and well owners. A well camera inspection can sometimes be useful to gain borehole information for constructing new water wells or for old wells that may need modification. Some well-related problems are solved from the surface. Many require observation of the well, well casing and borehole.

DOW has a down-hole color camera with approximately 500 feet of cable. This is a powerful tool for assessing subsurface conditions within a well. The use of the down-hole camera successfully diagnoses numerous problems for well owners and drillers across Kentucky.

Examples of well information obtained with the well camera are:

- cracked or broken casing;
- casing leaking at the base due to a failed annulus seal;

- identification of producing zones;
- subsurface voids or fractures;
- unstable formations; and,
- inspection of well screens for damage or bio fouling.

The well pump needs to be removed from the well at least 24 hours prior to the well camera inspection to allow any sediment in the water to settle out due to the pump being removed. The well water must be relatively clear to view all aspects of the well construction through the water column in the well. If you have a need for this service, please contact Scotty Robertson at 502-564-3410 or via email (scotty.robertson@ky.gov).



Groundwater staff video logging a water well, Ashland KY.
Photograph by DOW staff member Phil O'Dell.

Well Site Field Audits

Groundwater Section personnel had two good days in the field in October. Pat Keefe and Scotty Robertson spent Oct. 21 and 22 with Gus Naranjo, owner of Naranjo Well Drilling, observing the construction of a domestic water well using mud rotary methods. They also observed the pump being pulled from a public water well, which Gus was decommissioning for the city of Wingo. We would like to thank Gus and his son, Mark Naranjo, for being such excellent hosts. Pat and Scotty said that they really enjoyed the barbecue in Fulton. If you are interested in volunteering for an audit, please contact Scotty Robertson at scotty.robertson@ky.gov or 502-564-3410.

Field audits are not intended to be regulatory inspections. The primary purpose is to observe the well drilling operations, to educate groundwater staff, and to address any problems that driller may have related to the certification program.

Driller Certification Renewal Time Again

This is a reminder that your 2014/2015 certification expires May 31, 2015. Certification renewal begins June 1, 2015, and continues through August 31, 2015. During this time frame, we highly recommend that you renew your certification online. In order to renew, your liability insurance, surety bond and five hours of training must be up to date in DOW's database in order for online certification to work.

If you attend the Kentucky Ground Water Association Tradeshow in March 2015, and turn in your proof of training card, we will update your training in our database. If you have not sent in an updated copy of your proof of liability insurance, you must do so before you can renew on line.

You can renew online by going to <http://water.ky.gov> and then choose **Programs > Well Drillers Certification Program**. Again, you will not be able to renew online if your training, insurance, or bond is not current. Look for the ePay link on the webpage, as shown below, to begin the online certification process.

If you are having trouble paying online, please contact Scotty Robertson at scotty.robertson@ky.gov or 502-564-3410.



Online well record submittal is available on line also.



Well Drillers Certification Program Board Meeting

The Well Driller's Certification Board met at General Butler State Resort Park on Jan. 16, 2015. The order of business was the draft geothermal bill to amend KRS 223.400 to require certification of drillers who install closed loop vertical boreholes. Previously, the DOW website housed the minutes of the board meeting. However, this practice has come under scrutiny. Please contact Tekoyia Brown at 502-564-3410 or at tekoyia.brown@ky.gov for a copy of the minutes of the meetings. You may also file an open records request at <http://eec.ky.gov/Pages/OpenRecords.aspx> to obtain copies of the board minutes.

The next board meeting is March 5, 2015 at the Holiday Inn on Hurstbourne Parkway in Louisville, KY. The board meeting begins at 1 p.m. EST. Board meetings are open to the public, and all drillers are encouraged to attend. However if you do plan to attend, we do ask that you contact Scotty or Tekoyia so that accommodations can be made.

Annual Certification Training Requirements

The Kentucky Ground Water Association will conduct its annual Water Well Drillers Tradeshow and Workshop March 5 – 6, 2015, at the Holiday Inn East on Hurstbourne Parkway in Louisville, Kentucky. Five hours of training are available for your 2015/2016 certification for attending this workshop. Please be advised that the cost of the workshop increased this year for both members and non-members.

Pre-approval of training credit for annual certification requirements must be obtained from the Water Well Driller Certification Program for any other training. To receive pre-approval for training, submit a course description of the classes you plan to take. Upon completion of the training, submit proof of attendance and a training certificate from the training organization. **Only properly documented training receives credit.** You are not required to have pre-approval for training received at the annual Kentucky Ground Water Association's Driller Workshop.

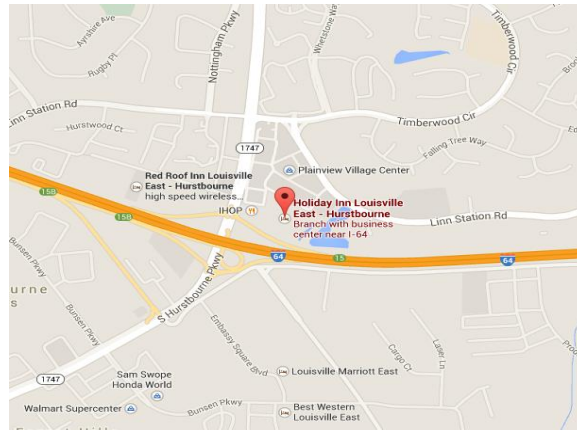
If you have questions concerning the application process, exam requirements, certification renewals, wallet cards, liability insurance, surety bonds, or technical questions related to well construction, abandonment, groundwater, well variance request, training, etc., contact Scotty Robertson or Tekoyia Brown at 502-564-3410, ext. 4943 and 4922, or e-mail scotty.robertson@ky.gov and tekoyia.brown@ky.gov

**The Kentucky Ground Water Association's (KYGWA)
2015 Annual Well Driller's Tradeshow and Workshop
March 5, 2015 and March 6, 2015
Board meeting March 5 at 9:00 AM EST
Training Classes Begin 3:00 PM in the Conference Center on March 5, 2015
Training Classes Begin 9:00 AM in the Conference Center on March 6, 2015**

Directions to Hotel

- From I-64 East, take Exit 15 Hotel on the right behind IHop
- From I-64 West, Exit 15 North (15C)
- From I-264, Exit I-64 East
- From I-65 South, Exit I-64 East
- From I-65 North, Exit I-264 East to I-64 East
- From I-71 South, Exit Gene Snyder Freeway South (I-265 S) to I-64 West, Exit 15

Hotel Contact Information
Hotel Front Desk: 1-502-4262600
Hotel Fax: 1-502-4231605
<http://www.hihurstbourne.com/index.asp>



Holiday Inn Louisville East - Hurstbourne
1325 Hurstbourne Parkway —Louisville, Kentucky 40222

NGWA Set to Launch, Expand Household Water Well Owner Training and Technical Assistance

Reprinted with permission from National Ground Water Association

NGWA is part of a team selected by the U.S. Environmental Protection Agency to provide training and technical assistance to private household water well owners nationwide.

The Association will create new water well owner training and technical assistance programs, as well as build upon programs initiated under a one-year grant completed last August. NGWA will receive about \$209,000 of the total \$1.7 million grant. Work is expected to begin in the spring.

Leading the team will be the Rural Community Assistance Partnership. Other grant partners include the Illinois State Water Survey and Illinois Water Resources Center at the University of Illinois at Urbana-Champaign, the National Environmental Health Association, and the Water Systems Council.

“NGWA has long been committed to helping private well owners protect their health by being good stewards of the groundwater and their well systems,” said Cliff Treyens, NGWA public awareness director. “This support by the U.S. EPA is a great help. As the leading association of groundwater professionals, NGWA will bring to bear its experience and expertise to gain new ground in helping private well owners across America.”

NGWA’s activities under the grant will include:

- **Online lessons**—12 new online lessons, free to well owners, will be developed to supplement the 15 lessons created under the previous grant; the new lessons will instruct well owners on detecting and treating various water quality problems
- **Webinars**—10 new webinars, also free to well owners, will be developed to supplement the eight webinars created under the previous grant; the new webinars also will address detecting and treating various water quality problems

- **New private well owner app**—an app will be created that will provide important tips and self-reminders to well owners to prompt them to action
- **Private well owner tip sheet**—an electronic tip sheet with helpful information about protecting well water quality, produced and distributed free to subscribers, originally started under the previous grant, will be resumed
- **Financing guide**—a well owner guide to financing water well maintenance or installation of a new well system, in both digital and hard copy formats, will be developed
- **Well owner’s manual**—a simple, brief manual on well ownership that includes a maintenance log will be created
- **Year-round campaign**—efforts to make well owners aware of new and existing grant-supported training and technical assistance tools will be undertaken through a year-round campaign involving National Groundwater Awareness Week and Protect Your Groundwater Day events as well as monthly releases distributed to news media nationwide
- **Marketing**—a significant marketing effort involving print advertising, television coverage, and syndicated distribution of news to promote free well owner training and technical assistance will be produced under the grant.

In addition to creating new and expanding existing training and technical assistance programs, Treyens said NGWA and the grant team will have significant new support for making well owners aware of the tools and information at their disposal.

“The challenge always has been not only to package information for well owners but to connect them to that information. This grant will help us make real progress marketing the information to well owners so they can use it to protect their water quality,” he said.

[Kentucky Driller Certification Program](#)

<http://water.ky.gov/groundwater/Pages/WellDrillersProgram.aspx>

Quick Links

- [Kentucky Driller Quarterly](#)
- [Forms and Applications](#)
- [Training Opportunities](#)
- [Water Well Drillers Certification Board Meetings](#)

<http://water.ky.gov/>

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