

OKLAHOMA WATER RESOURCES BOARD WELL DRILLER'S LOG

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NEWSLETTER OF THE OKLAHOMA WELL DRILLER'S PROGRAM

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Chapter 35 Roadmap

As many of you know, the OWRB's Chapter 35 rules govern well driller and pump installer licensing as well as minimum construction standards for the installation of water wells and water well pumps. Chapter 35 rules were recently opened for revision and the drilling community has proposed many changes. This year our Advisory Council met almost monthly to discuss proposed revisions and updates, and the OWRB hosted several meetings with stakeholders who would be affected by rule changes. This input was extremely valuable in crafting the proposed revisions, some of which are outlined below.

HEAT EXCHANGE WELL CONSTRUCTION RULES

In August, the OWRB hosted a well-attended stakeholder meeting to agree on the proposed revisions for heat exchange well construction standards, which were in need of an update because of considerable advancements in knowledge and technology since they were originally put in place. Additionally, several emergency situations across the state highlighted the need for specific improvements to the rules for vertical closed loop heat exchange systems. (See Pawhuska Journal-Capital article [Pawhuska schools to reopen Monday](#).)

The OWRB invited each Oklahoma licensed heat exchange well contractor to help draft the proposed changes, as well as grout manufacturers Baroid and CETCO. Stakeholders agreed upon many of the recommendations from the C448 international standard for heat exchange wells, which was recently completed by the International Ground Source Heat Pump Association (IGSHPA) in collaboration with the American National Standards Institute (ANSI) and the Canadian Standards Association (CSA). (See [C448 Standard Manual](#).)

Below are some of the proposed changes for heat exchange well construction rules in Chapter 35.

- The first borehole will be considered exploratory and will inform the contractor about subsurface conditions.
- The OWRB must be notified immediately if hazardous gases or hydrocarbons are observed in drilling the exploratory or any subsequent borehole.
- The grout selection must be appropriate for the groundwater chemistry encountered. Some bentonite-

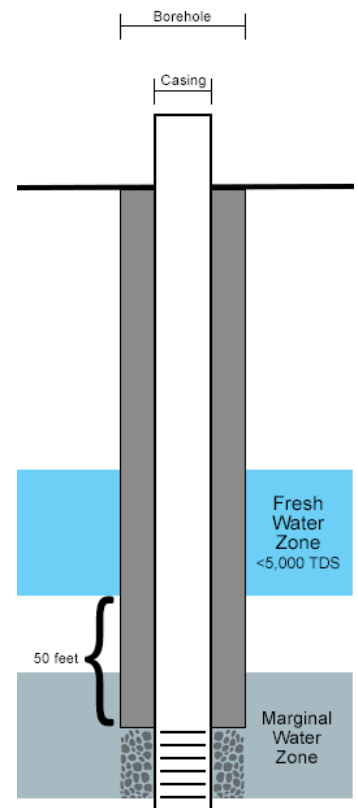
base grouts may fail to swell properly if chloride concentration is greater than 1500 parts per million (ppm). Grout must be installed according to manufacturer instructions. (See National Driller article [An Overview of Geothermal Grouts](#).)

- Full column grouting will be required for vertical closed loop heat exchange boreholes. Placement of fill material in the annulus will not meet minimum standards.
- Concentric tube heat exchangers will be acceptable.
- Horizontal closed loop heat exchange systems installed below the water table will require the same grouting standards as vertical installations.

MARGINAL QUALITY WATER WELL CONSTRUCTION RULES

On May 3, 2018, the legislature passed the Marginal Water Act (House Bill 3405), which allows the OWRB to regulate marginal quality water, or groundwater that is greater than 5,000 but less than 10,000 ppm in total dissolved solids. Completion of wells into marginal quality water presents a unique challenge because fresh groundwater will need to be protected from comingling. Below is an overview of the proposed standards for marginal quality water well construction.

- "Commercial drilling and plugging of marginal water wells" will be established as license category 5.
- An [Intent to Drill form](#) must be submitted to the OWRB along with a fee prior to drilling.
- If the project is approved, the OWRB will grant a marginal quality water well construction permit.
- Casing material must stand up to the potentially corrosive conditions encountered in a marginal quality water well borehole.
- The annulus must be sealed from the surface (or pitless adapter) to 50 feet below any fresh groundwater.
- Any zones containing fresh groundwater must be cased and sealed.



PUBLIC COMMENT PERIOD

The proposed rules are available on the [Rules page](#) of our website. There will be a public hearing regarding the proposed rules at OWRB's next meeting on January 15, 2019 at 9:30 am. You are invited to submit your comments and suggestions at that board meeting, or in writing (or both), so that they will be considered for inclusion in the proposed rules.

BOARD APPROVAL

After the public comment period, all comments will be considered and the proposed rules will go before the Board for approval on February 19, 2019.

STATE LEGISLATURE

If approved by the Board at the February meeting, the proposed rules will be sent to the state legislature for final approval. If approved by the state legislature, the proposed rules will become effective in September 2019.

ACKNOWLEDGEMENTS

The OWRB would like to thank the many stakeholders who helped draft the proposed rule changes, including the Advisory Council and their respective organizations, IGSHPA, Oklahoma Corporation Commission, Oklahoma Department of Environmental Quality, Ground Water Protection Council, B&H Construction, B2D, Baroid/Halliburton, CETCO, Continental Resources, Fire and Ice Geothermal, Hollifield Service Company, Lake Country Drilling, Nelson Drilling Company, and anyone else we forgot to mention. We are grateful for your help and expertise.

OGWA Fall Hands-On Workshop

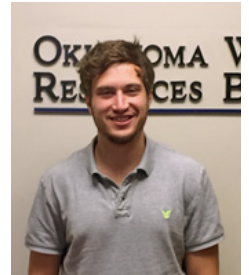
We were excited to participate in the OGWA's Fall Hands-On Training Workshop on November 9, 2018. Attendees received a fascinating introduction to sonic drilling techniques and equipment. Sonic drilling technology is the new wave in geotechnical drilling, and getting Oklahoma's contractors exposure to it is important. We are grateful to the OGWA for arranging the event and to Robert Keyes and Associated Environmental Industries for hosting and providing the education.



Robert Keyes of Associated Environmental Industries presenting a drilling demonstration.

Welcome Team Member John Bowen

My name is John Bowen and I am a recent hire in the Well Drilling and Pump Installation program. I graduated from Judson University in Illinois during the spring of 2018 with a bachelor's degree in Chemistry and a bachelor's degree in Environmental Science. My key areas of interest include water chemistry, the conservation of groundwater resources, and well design.



As a field specialist in the Well Drilling & Pump Installation program, I have inspected the work of 41 different contractors to see that construction standards are being met. I'm looking forward to meeting all of you at our upcoming continuing education courses, trade shows, and of course, out in the field.

Well Maintenance Checkup

With winter already here in Oklahoma, I'm sure many are checking their well houses and facilities to make sure everything is protected from freezing. That makes this a good time of the year to also check around your wellhead for potential issues.

The Water Systems Council's [Well Owner's Manual](#) recommends setting a well maintenance schedule to plan for the maintenance of the wellhead, well system, water quality, water treatment devices and septic system. Check out this publication for helpful checklists, fillable well record sheets, and more.

Oklahoma Ground Water Association's Annual Conference and Trade Show

We look forward to seeing you all at OGWA's 2019 conference in Norman! The keynote address will be "Drilling Disasters and What We Can Learn" delivered by Mr. Gary Hix, RG, CWD/PI, who is the 2019 NGWA Foundation William A. McElhiney Distinguished Lecturer. There will also be a panel discussion called "Current Issues in Groundwater" that will feature David Henrich, Past President of the National Groundwater Association; Scott Thompson, Executive Director of the Oklahoma Department of Environmental Quality; and our very own Julie Cunningham, Executive Director of the Oklahoma Water Resources Board. [Register online](#) through January 2 and receive a 50% discount.

Upcoming Events

January 8-9 OGWA Annual Conference & Trade Show at the Embassy Suites Conference Center in Norman, OK

January 15 OWRB Board Meeting and Public Hearing on Proposed Rules

Julie Cunningham, Executive Director
Oklahoma Water Resources Board

Kent Wilkins, Chief
Planning & Management Division

Charles O'Malley, Coordinator
Driller/Pump Installer Program

To ensure the integrity of water well construction, and thus prevent potential pollution of state groundwaters, the OWRB supervises the state licensing program of pump installers and drillers of water supply, geothermal, observation, and monitoring wells. The OWRB has published the Oklahoma Driller's Log since 2001 as a source of information for the state's licensed water well drillers and pump contractors. Please e-mail comments and article ideas to pubinfo@owrb.ok.gov.