Well Said Newsletter

October 2007
Volume 1, Issue 26

News from the Water Resources Department's Well Construction & Compliance Section

Articles

Staff Changes -- She's Baack!

Yes. She is back. Please welcome Laurie Norton back to the Well Construction and Compliance Section. Laurie was working in the Data Center processing well construction and water right data. We are glad to have her back in the Section responding to calls from individuals looking for copies of well reports and reviewing well reports submitted by drillers for completeness. Laurie can be reached at (503) 986-0850.

New Regional Well Inspectors

Please welcome Scott White to the North Central (NC) Region office in Pendleton as the new Well Inspector. He replaces Brian Mayer who has accepted a promotion opportunity as the new District 12 Watermaster stationed in Lakeview. Scott comes to the Department from the City of Albany where he worked as an Environmental Services Technician. He also worked for the Benton Soil and Water Conservation District and the City of Corvallis promoting the conservation and wise use of water. Scott has already been inspecting wells and has found some well construction issues. If you have any questions about well construction in the NC Region please direct your questions to Scott who can be reached at (541) 278-5456.

Please also welcome Gordon Burton to the Northwest Region office in Salem as a Well Inspector. Gordon comes to the Department from Boart Longyear where he worked for the last 9 1/2 years. Gordon started his drilling career in Montana and has worked for several drilling companies. He brings approximately 15 years of well drilling experience to the Department. Gordon currently holds a Monitoring Well Constructor's License and a Water Supply Well Constructor's License in Oregon and Washington. In the past, he has also been licensed to construct wells in both Idaho and Nevada. Gordon can be reached at (503) 986-0802.

E-file Start Cards

Licensed well constructors can now pay for and file start cards online! Go to the Department's home page and click on the link titled "E-File Start Cards" to E-file. Once the credit card information is accepted and verified, the transaction is complete. E-filing eliminates the need to send a copy of the start card to the Region Office. Notification to the Region office is handled through the Department's e-mail system. E-filing start cards online is another step in the Department's regulatory streamlining efforts. If you don't already have a password set up with the Department (it is the same password used for electronically filing well logs), please contact Tracy Eichenlaub (503) 986-0856 or Ken Smith at (503) 986-0867.

Altering a Well

When a licensed well constructor alters the casing depth, seal or depth of an existing well then upon completion of the work the well must meet or exceed the minimum well construction standards in place at the time. An administrative process exists for well constructors that want to alter a well without bringing the well up to current standards. The constructor can submit Special Standards for the Department to consider. Special Standards are unique to every site and will be considered on a case by case basis. Questions about altering wells should

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Available on the web at www.wrd.state.or.us/OWRD/GW/forms.shtml.

Please share with others at your organization.

Well Said is a production of the Oregon Water Resources Department's Well Construction and Compliance Section and is designed to inform the drilling industry and the public about program activities and other items of interest. Questions or suggestions about this newsletter can be directed to Kristopher Byrd at (503)986-0851 or Kristopher.R.BYRD@wrd.state.or.us.

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A Guide to Water Well Construction

To help landowners understand about well construction, the Department has created the brochure "A Consumer's Guide to Water Well Construction, Maintenance and Abandonment". This is a useful tool if you are having any kind of work done to an existing well or constructing a new well. This brochure provides landowners some helpful hints and questions they should ask a driller about well construction, maintenance, water rights or about water rights in general. The brochure is available online or contact Codi Holmes at (503) 986-0854, if you would like to have one sent to you.

Expired License

Well constructors whose license expired on June 30, 2007, have until June 30, 2008, to renew their license without starting the licensing process over again. Well constructors, whose licenses expire on June 30th, have 12 months after the expiration date to renew. Licensees must renew within this 12 month period to avoid re-qualifying for a license. Re-qualifying includes taking and passing the licensing exam, paying the exam fee and providing documentation to verify the required experience. Licensees who renew their license within 12 months of the expiration date of their license must pay a late fee. Questions should be directed to Tracy Eichenlaub at (503) 986-0856.

Special Standards

On occasion, site or subsurface conditions may exist which necessitate deviation from the general well construction standards. In these situations, the bonded well constructor may apply to the Department for special well construction standards. The special standards application process is outlined in OAR 690-200-0021 for water supply wells and OAR 690-240-0006 for monitoring wells.

Currently, the Well Construction Program Coordinator, Well Construction and Compliance Section Manager, Field Services Administrator, and Technical Services Administrator may grant special standards for well construction statewide. In addition, Region Managers and Assistant Region Managers may grant special standards within their individual regions. Watermasters, Well Inspectors or other staff may not grant special standards.

Special standards are appropriate when conditions at the well site preclude adherence to the design, construction, and abandonment procedures described in the rules. In all cases, methods or materials allowed through special standards should provide at least the same level of resource protection as that provided by adherence to regular well construction standards. Special standards are not appropriate when the sole purpose is to save the landowner or driller money or to make well construction more convenient.

A copy of the special standards request form is available on the Department's website. It may be reproduced and distributed as needed. The form includes the language required under ORS 536.075 related to the appeals process for final orders in other than contested cases. Use of the current form is preferred. Questions about Special Standards should be directed to Kristopher Byrd at (503) 986-0851.

Potable Water (Wikipedia)

Drinking water is water that is intended to be ingested

"Serving the public by practicing and promoting responsible water management."

by humans. Water of sufficient quality to serve as drinking water is termed potable water whether it is used as such or not.

Although many sources are utilized by humans, some contain disease vectors or pathogens and cause long-term health problems if they do not meet certain water quality guidelines. Water that is not harmful for human beings is sometimes called safe water, water which is not contaminated to the extent of being unhealthy. The available supply of drinking water is an important criterion of carrying capacity, the population level that can be supported by planet Earth.

As of the year 2006 (and pre-existing for at least three decades), there is a substantial shortfall in availability of potable water in lesser developed countries, primarily arising from overpopulation. As of the year 2000, 37 percent of the populations of lesser developed countries did not have access to safe drinking water. Implications for disease propagation is significant. Many nations have water quality regulations for water sold as drinking water, although these are often not strictly enforced outside of the developed world. The World Health Organization sets international standards for drinking water. A broad classification of drinking water safety worldwide can be found in Safe Water for International Travelers.

Typically water supply networks deliver a single quality of water, whether it is to be used for drinking, washing or landscape irrigation; one counter

example is urban China, where drinking water can be optionally delivered by a separate tap. In the United States, public drinking water is governed by the Safe Drinking Water Act (SDWA). Among other provisions, it protects the right of employees to report potential violations. 42 U.S.C. 300j-9(i). Within 30 days of any retaliation, a whistleblower can file a complaint with the Occupational Safety and Health Administration (OSHA).

The standard test for bacterial contamination is a laboratory analysis of coliform bacteria, a convenient marker for a class of harmful fecal pathogens. The presence of fecal coliform (like Escherichia coli) serves as an indication of contamination by sewage.

When a well is drilled in Oregon and water is required to be used to aid in the drilling process then the water that is used must meet potability standards. Water from local streams, lakes or ponds may not be used unless it is potable. Questions should be directed to Kristopher Byrd at (503) 986-0851.

Imperm-eable Sealing Material

When a water supply well is drilled into consolidated formations like basalt, sandstone, shale, hard claystone or granite some drillers choose to seal the well using the "split seal method". With this method there are two seal intervals, the upper and the lower. Division 210 of the Well Construction Standards requires that the interval between the two seals be filled with an impermeable sealing material. Impermeable sealing material is defined in the well construction standards and can be cement, concrete, or bentonite. Drilling mud, drilling gel, cuttings, slough or any material other than cement, bentonite or concrete does not meet standards and should not be used as an impermeable sealing material. Questions regarding impermeable sealing material should be directed to Kristopher Byrd, (503) 986-0851.

Disinfection of Wells

This is a time consuming project so, plan on spending some time doing this job. It is better to do it right the first time. It only takes a small amount of bacteria left in the pipes to re-infect the whole system.

During this procedure water

will not be drinkable, so plan to disinfect at a time when there is little need for water.

- Use three gallons of fresh, unscented household bleach (Clorox has a higher bleach content than generics). Large diameter or very deep wells may require more chlorine. Dilute the chlorine bleach, one gallon at a time in a large bucket of water.
- Remove the cover from the top of the well's casing. Pour the chlorine solution into the well casing. Using a clean hose connected to a faucet that operates from the well, pour water into the well casing until such time as you can smell chlorine coming from the water in the hose. As the hose is removed rotate it inside the casing to disinfect it. Replace the cover on the casing.
- Open each faucet in the distribution system until you smell chlorine, and then turn off. The goal is to get the chlorine solution to all the parts of the plumbing, including both hot and cold waterlines. It is necessary to run 30 or 40 gallons of water through the hot water tank. Be sure to flush all the toilets.
- Leave the chlorinated water in the pipes a minimum of two hours, preferably overnight.
- Open all faucets and flush out the chlorine solution until you can no longer smell it.
- If the home is on a septic system use a hose draining to yard when flushing the system. The septic may not be able to handle the large volume of chlorinated water.
- The well water distribution system should now be disinfected. Follow-up sampling should be done after all traces of the chlorine are gone to insure that the disinfection procedure was successful.
- Large amounts of chlorine can damage the resin in water softeners so they may need to be bypassed before disinfection. Before chlorinating the water softener, check with the manufacturer to be sure the softener will not be damaged.
- In-line water filters should be removed and replaced with new filters after the disinfection is completed.

If you have chlorinated the well and the results have come back positive (it still has bacteria). Re-chlorinate the well using one more gallon of bleach than was originally used, and have a water sample re-tested. If the test results come up positive again, a well constructor or pump installer may be contacted. They will "shock" the well using bleach tablets. Homeowners should not attempt to use these tablets, they are highly toxic and difficult to use.

Do not use chlorine tablets or swimming pool chlorine, it is too strong and may render the water undrinkable for quite some time.

Tired of Seeing Well Reports Returned?

Are you tired of getting well reports back for correction? Recently, the amount of Well Reports being sent back to drillers has increased. Checking logs for minor changes may eliminate the need to send logs back for clarification. The following is a list of common reasons to return well reports and some helpful tips to keep in mind when submitting well reports.

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- If there is one, have the unbonded driller sign the well report under “Unbonded Driller”.
- If no tax-lot number has been assigned to the property then please indicate “none” in the tax-lot field. If the well is in a right of way then indicate “ROW”.
- Avoid submitting dark maps with monitoring wells or geotechnical holes because the scanned image is illegible.
- Avoid using highlighter colors other than yellow because once the report is scanned, other colors darken upon scanning and are illegible.
- The impermeable sealing material and the interval where it was placed must be reported on the well report.

Figure 2: A monitor well being constructed on a contaminated site in Portland, Oregon.

Figure 1: Collector well being installed near the Columbia River.

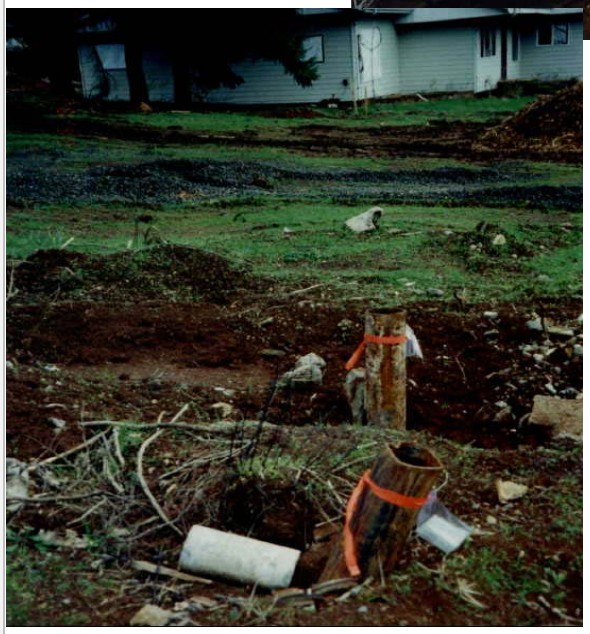

Figure 4: Two water wells damaged by an excavator on a construction site.

Figure 3: Domestic water well where the seal has disappeared.

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