

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

GOVERNOR DECLARES JULY "WATER AWARENESS MONTH"



Governor Kate Brown has declared July 2015 "Water Awareness Month". The proclamation cites several concerns, including low snowpack and higher than average temperatures. 20 Oregon counties have requested and received Governor's drought declarations. According to the U.S. Drought Monitor, approximately 98 percent of the state is experiencing moderate to extreme drought with more than 30% of the state in extreme drought.

With climate scientists predicting that during the next 50 years Oregon is likely to lose most of its snowpack and become a rain dominated hydrologic system, Governor Brown is asking all Oregonians to do what they can to use water wisely. "Water is the foundation for local economies and ecosystems, and essential to the health and well-being of Oregonians. ...Adopting responsible water use practices now will help reduce the impact of drought for years to come." Furthermore, Governor Brown is directing all state agencies to assist the Oregon Water Resources Department in raising awareness about Oregon's water resources challenges.

In an effort to increase awareness regarding the extreme conditions facing Oregon this summer, Governor Brown's office has created a website for more information: www.drought.oregon.gov.

At its July 9 meeting, the State's Drought Council recommended that the Governor declare drought in three additional counties. These include Curry, Hood River and Union Counties.

NEW WELL CONSTRUCTION RULES ADOPTED **SEE PAGE 2** !

DRILLER LICENSE IMPROVEMENT



Front



Back

The Well Constructor's Continuing Education Committee recently approved a change in the way class rosters may be created that will allow the organizers of conventions and other trainings to more quickly and efficiently process attendees. Based on suggestions from the Oregon Groundwater Association, the Water Resources Department added additional features to the well driller license.

The new license design now includes a photograph of the licensed driller on front and back, and an OCR code that contains the driller's name and license number. The OCR code (shown, at left) will be scanned by class organizers who can also verify that the person holding the license is the person in the photo. The organizers will then create a class roster from the scanned list and send a letter to the Department certifying that the list accurately reflects the attendees of the class.

New updated licenses for all Oregon drillers are being created now and will be mailed soon. Once your new license is received, please properly dispose of your old license. Questions about the new licenses should be directed to Laurie Norton at (503) 986-0856 or by e-mail at Laurie.K.Norton@wrd.state.or.us.

WELL SAID ARTICLES

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NEW WELL CONSTRUCTION RULES ADOPTED

At its June 19, 2015 meeting, the Oregon Water Resources Commission adopted new Administrative Rules related to well construction. The new rules are now in effect and include the following changes and additions:

Special Area Standards for New, Altered, Deepened, or Converted Water Supply Wells in the "Mosier Area" of Wasco County:

- Well constructors need to provide a notice of at least ten calendar days to the Department prior to the start of construction, alteration, deepening, or conversion on any new or existing well in the Mosier Area.
- All new wells must have a nominal minimum well casing diameter of at least 6 inches.
- All new and deepened water supply wells developing water from the Columbia River Basalt Group shall be limited to one aquifer.
- The well constructor shall provide a detailed rough log to the Department so that a case and seal depth can be determined. The well shall not be permanently cased and sealed prior to consultation with the Department.
- All wells, in all aquifers, shall have a minimum 3/4-inch diameter dedicated measuring tube installed at the time of pump installation, pump repair, or pump replacement.

Other Items Addressed...

- Clarifies that Injection wells installed for remediation purposes that are open for more than 72 hours are Monitoring Wells.
- Reformats water supply well setback standards from a paragraph to a bullet point listing for easier reference.
- Adds a setback distance of five feet from a permanent structure or the roof, eaves, or overhangs of a permanent structure, including decks or other additions to the structure. This rule does not include pump houses or other outbuildings that are easily moved.
- Clarifies the rules regarding the construction of dug wells.
- Updates incorrect appendix, figure and table references and removes dates that have expired.



These Rules were developed in conjunction with a Rules Advisory Committee (RAC) that included water supply well constructors, consultants, and representatives from other natural resource agencies. Copies of the new rules will soon be mailed out to all licensed well constructors and are available on the Departments website. Questions about the new rules should be directed to Joel Jeffery at (503) 986-0852 or Joel.W.Jeffery@wrд.state.or.us.

DROUGHT-RELATED DRY WELLS

DROUGHT

The OWRD is closely tracking drought conditions statewide. Knowing that drillers and pump installers are on the front lines, we're asking for their help this year to help track and monitor well issues.

If you are a driller or a pump installer and are receiving calls from well owners about reduced yields or dry wells, we'd like to hear about it. We are looking for trends that may need attention, such as aquifers that need to be further developed, decreased water levels, or pumps that need to be lowered.

Please share the information with Kris Byrd at Kristopher.R.Byrd@wrд.state.or.us or by phone at (503) 986-0851 or with any of the Department's well inspectors:



| | | | |
|----------------------------------|--------------|------------------------------------|--------------|
| NW Region: Barry Sanford | 503-986-0895 | E Region: Bob Maynard | 541-523-8224 |
| NC Region: Erik Thomasser | 541-278-5456 | SW Region: Scott Cecilliani | 541-774-6880 |

You may also contact Joel Jeffery, Well Construction Coordinator: (503) 986-0852 or Joel.W.Jeffery@wrд.state.or.us



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



OREGON DRILLER'S FIELD GUIDE FOR SOIL & ROCK FORMATIONS

CHECKLIST:

| | | |
|-----------------------------------|---------------------|-------------------------------|
| 1. Color | 3. Moisture Content | 6. % Fines |
| 2. Grain Size & Soil or Rock Type | 4. Marker Beds | 7. Hardness or Density |
| | 5. Drilling Action | 8. Structures and Definitions |

1. Color

| | | | | | | | | |
|----------|-------------|---------------|-----------------|-----------|------------|------------|------------|-----------|
| | | | | | | | | |
| lavender | light brown | reddish brown | yellowish brown | blue-gray | green-gray | olive gray | light gray | dark gray |

2. Sand Grain Size

| | | | |
|--|---|--|---|
| | COARSE-GRAINED SOILS More than 50% of the soil particles are visible to the naked eye | Gravel inches (USCS) Boulders >12 in Cobbles 3 - 12 in | inches (USCS) Coarse 3/4 - 3 in Fine >1/4 - 3/4 in |
| | | | |
| | FINE-GRAINED SOILS More than 50% of the soil particles are not visible to the naked eye | Silt Can't roll into 1/8" rod Doesn't stick to fingerprints Easy to break when dry | Screen Slot Size 100-slot + 20 - 100 slot <20 slot |
| | | | |

Peat or Organic Soil

2. Rock Type

Sedimentary rock: composed of detrital grains, such as siltstone, shale or sandstone; usually rounded
Igneous rock: composed of crystalline groundmass; may have crystal inclusions; grains may be angular
Metamorphic rock: altered sedimentary or igneous rock; typically with warped banding or shiny, scaly texture, light and dark wavy banding

3. Moisture Content Dry • Moist
Wet or Saturated

4. Marker Beds Ash or Pumice
Peat • White or Tan layers
Wood • Red or Black Sand

5. Drilling Action Hard • Heaving • Boulders • Refusal
Chatterny • Choppy • Void • Easy

7. Hardness or Density—Rated by Ease of Drilling (Easy, Moderate Effort needed, Hard or Very Difficult)
 Density (if silt, sand, gravel): Loose (Easy); Dense (Moderate); Very Dense (Hard)
 Hardness (if clayey silt & clay): Soft (Easy); Stiff (Moderate); Hard (Hard)
 Strength (if rock): Weak (Moderate); Moderate (Difficult); Strong (Very Difficult)

8. Structures and Definitions
 Bedded: Has layers • Cemented: Grains held together by mineral deposits • Fractured: Breaks easily along planar surfaces • Interbedded: Alternating light and dark layers or alternating grain sizes
 Silt or Clay Bound: Grains held together by silt or clay • Slickenside: Has polished fracture planes
 Till: Hardpan, gravels held in suspension by fines, non-sorted • Weathered: Grains decayed into smaller pieces • Well Sorted: Particles are similar in size

6. % Fines

| |
|--|
| |
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| |

Coarse (dark) grains across fine (white background) grains

DRILLER'S FIELD GUIDE

The Water Resources Department has created a voluntary guide to assist drillers with the field identification of soil and rock formations.

The guide consists of eight checklist items to help refine the formation descriptions.

These items include:

1. Color
2. Grain Size and Soil or Rock Type
3. Moisture Content
4. Marker Beds
5. Drilling Action
6. Percentage of Fines
7. Hardness or Density
8. Structures and Definitions

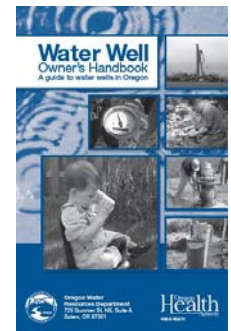
It is anticipated that the field guide will provide drillers with an additional tool to help refine the description of the soil and rock types encountered during the well drilling process, helping to ensure well logs are consistent and accurate.

The Field Guide will be water resistant and sturdy enough to be used on a drilling site. The final design of the guide is currently being refined by the Department and will be available soon. A draft copy of the field guide is presented at left.

UPDATED WELL OWNER'S HANDBOOK

As promised in the last *Well Said* issue, the Department now has an updated Well Owner's Handbook, created in partnership with the Oregon Health Authority's Domestic Well Safety Program. The handbook is a valuable resource to share with homeowners and is currently available online at http://www.oregon.gov/owrd/pubs/docs/Well_Water_Handbook.pdf. It includes information on well maintenance and care, and also offers tips on water conservation practices.

If you would like a few copies of the handbook to offer your customers, please call Ladeena Bell at (503) 986-0854 or email Ladeena.K.Bell@wrdd.state.or.us.



REPORTING TDS ON WELL LOGS

Still not sure whether it is necessary to report total dissolved solids (TDS) when constructing a water well? If unhydrated bentonite is being used as the annular sealing material in the construction of a well, TDS needs to be reported if the bentonite comes in contact with the groundwater (OAR 690-210-0340). This means that if the depth first water was found is within the seal interval or if the static water level is within the seal interval, TDS has to be reported in the well test section of the well log.

Questions about the information required to be included on a well report should be directed to Buffy Gillis at (503) 986-0850 or by e-mail at Buffy.M.Gillis@wrdd.state.or.us.

DEEPENING WELL REPORTS

| | |
|----------------|--|
| START CARD # | |
| ORIGINAL LOG # | |

When completing a deepening log for water wells, please remember that the original well log number must be referenced on the log (OAR 690-215-0045). If you are unable to locate the original log, please be aware that **special standards** must be requested and approved **prior** to the deepening, unless the well is recased and resealed to minimum standards.

The newest version of the water supply well report has a field in which to place the original log number, near the upper right corner under the start card number. When e-filing a deepening log, if you find that the original log information is causing errors and preventing the log from being submitted, you may find it easier to note the original county well log number in Section (11).

Questions about the information required to be included on a well report should be directed to Buffy Gillis at (503) 986-0850 or by e-mail at Buffy.M.Gillis@wrd.state.or.us.

PROPOSED WELL LOCATIONS



As a reminder, proposed well locations are required to be provided on start cards submitted to the Department. This information is critical to well inspectors and other Department staff who are routinely in the field looking at wells under construction.

In addition to the proposed location, an accurate QQ/Q (or latitude and longitude) and a tax-lot number must be submitted. The Oregon Water Resources Department home page offers a link to different mapping tools if you need additional assistance in locating a property: <http://www.oregon.gov/owrd/pages/MAPS/index.aspx>.

Corrections or amendments to Start Cards should be directed to Ladeena Bell at (503) 986-0854 or by e-mail at Ladeena.K.Bell@wrd.state.or.us.



CONTINUING EDUCATION COMMITTEE

The Water Resources Department is pleased to announce the addition of Ryan Galbreth to the Continuing Education Committee (CEC). Ryan, who has been a licensed driller in Oregon for more than 20 years, is the operations manager at Cascade Drilling out of Clackamas, Oregon. He has worked with direct push, sonic, hollow-stem auger, air, mud rotary, and coring drilling machines and also has been involved with monitor well abandonments using vacuum methods, well development and pump tests. Ryan has a wealth of knowledge to bring to the committee and will be a welcome addition as we move forward through 2015 and beyond.

After serving several terms on the CEC, Greg McInnis departed from his position of Chair on June 30, 2015 when his term ended. The Oregon Water Resources Department would like to take this opportunity to thank Mr. McInnis for his thoughtful input, diligent work and professionalism while serving on the CEC. The Department wishes him all the best in his endeavors.

Questions about the CEC or continuing education credits should be directed to Laurie Norton at (503) 986-0856 or Laurie.K.Norton@wrd.state.or.us.

WELL SAID NEWSLETTER

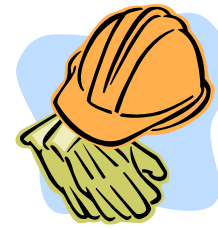
Available on the web at www.oregon.gov/owrd/pages/gw/forms.aspx. Please share with others at your organization.

Well Said is a production of the Oregon Water Resources Department's Well Construction & 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 may be directed to Kristopher Byrd at (503) 986-0851 or Kristopher.R.Byrd@wrd.state.or.us



For Well Construction & Compliance resources, log onto http://www.oregon.gov/owrd/Pages/gw/wcc_index.aspx

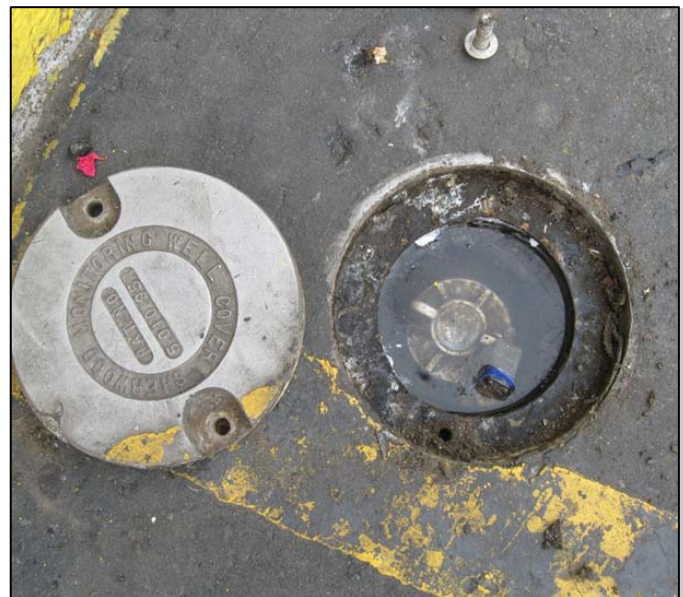


Old dug well with issues...

Repairing a Domestic well



Old fashioned pump well head



Monitoring Well, underwater



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