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WELL SAID NEWSLETTER

Available on the web at OWRD home page, under *Agency Spotlight > Well Said Newsletter*. Please share with others at your organization. *Well Said* is a production of the OWRD Well Construction 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) 991-2470 or email at Kristopher.R.Byrd@water.oregon.gov



Serving the public by practicing and promoting responsible water management.



NEW SOUTH CENTRAL REGION WELL INSPECTOR

Please join the Oregon Water Resources Dept (OWRD) in welcoming Alyssa Witt as one of the new well inspectors for the South Central (SC) Region. Alyssa is originally from Janesville, MN and earned a bachelor's degree from Minnesota State University, Mankato with a major in Earth Science and minors in Chemistry and

Biology. She then went on to receive dual master's degrees in Geology and Environmental Science from Iowa State University in Ames, IA with a thesis focused on aquifer sustainability in Minnesota. During her master's program, Alyssa worked with the United States Geological Survey (USGS) in Mounds View, MN on a project characterizing the properties of till confining units to estimate recharge to underlying buried valley aquifers. After graduating, she worked for the USGS until 2017 when she moved to Seattle, WA to work as a field hydrogeologist for Golder Associates and then PES Environmental. In 2019, Alyssa moved to Sedona, AZ for a real estate investment opportunity in support of her family business. After stabilizing her investment properties, she wanted to return to a geology related career and moved to Bend, OR.

In her spare time, Alyssa enjoys rock climbing, hiking, paddle boarding, and traveling. This winter will be her first attempt at adding skiing to the list. Alyssa may be contacted at Alyssa.N.Witt@water.oregon.gov or (971) 375-6919.

COMMENCE WORK NOTIFICATION REQUIREMENT

As of July 1, 2023, on the day that work begins on a well, regardless of the type of work, the licensed or permitted person is required to notify the Department that work is about to commence. Since this requirement is new to the industry, it is important to remember that the notification must be filed on **the day work begins, it cannot be submitted the day before.**

Additionally, unlike the seal placement notification requirement, commence work notifications **must be submitted even if they match the proposed start date on the Start Card.** If work does not begin on the day the commence work notification was submitted, drillers need to cancel the original notification and submit a new one on the day work actually begins. Finally, it is also important to note that even if a driller submits a request for a 72-hour notice exception, they are still required to provide a commence work notification.

For information on how to submit these notifications electronically, please see the video tutorial titled "Well Constructor Notification Tutorial" on the WCC [Program Video Tutorials](#) web page. Well Constructor [Notification Forms](#), available on the Department's website, can be submitted by email at: wrd_dl_wcc_notifications@water.oregon.gov.

Questions about the notification requirements should be directed to Travis Kelly, Well Construction Compliance Coordinator, at Travis.N.Kelly@water.oregon.gov or (971) 304-5079.

SEAL PLACEMENT NOTIFICATION REQUIREMENT

As of July 1, 2023, a seal placement notification is required **if the actual date for seal placement is not the date proposed on the Start Card**. If required, this notification must be submitted at least **four hours before the seal is placed**. As an example, if a seal notification is required, it may be submitted on Monday for a seal placement on Tuesday, as long as it is submitted at least four hours before the work. If the seal is not able to be installed on Tuesday after all, then the seal placement notification should be cancelled, and a new one submitted with the updated information.

For information on how to submit these notifications electronically, please see the video tutorial titled "Well Constructor Notification Tutorial" on the Well Program [Video Tutorials](#) web page. Well Constructor [Notification Forms](#), available on the Department's website, can be submitted by email at: wrd_dl_wcc_notifications@water.oregon.gov.

Questions about the notification requirements should be directed to Travis Kelly, Well Construction Compliance Coordinator, at (971) 304-5079 or Travis.N.Kelly@water.oregon.gov.

START CARDS: EXPIRATION DATES & NOTIFICATIONS

Start Cards submitted on or after July 1, 2023, **expire after 60 days** if work on the well does not begin within that 60-day time period. Start Cards may be extended one-time for an additional 30 calendar days due to exigent circumstances. The **Start Card will not expire if the commence work notification is submitted within the 60-day window**.

If the well report is submitted prior to the expiration date of the Start Card and the commence work notification was not submitted, the well report reviewer will notify the driller that their notification was overdue.

Start Cards submitted before July 1, 2023, do not have an expiration date, however, a commence work and seal placement notification still must be submitted.

If a Start Card requires a fee, then the fee may be transferred to a new Start Card if the old one is set to expire, or the project has been cancelled. Refunds **will not be issued for Start Cards submitted on, or after, July 1, 2023.**

Continued above right

Start Cards, Cont'd

Start Card fees may only be transferred if the transfer is completed **prior to the Start Card expiring**. Start Cards that have no fee associated with them can be voided, or drillers can allow the Start Card to expire.

Questions about Start Card changes should be directed to Travis Kelly, Well Construction Compliance Coordinator, at (971) 304-5079 or Travis.N.Kelly@water.oregon.gov.

Questions about transferring Start Card fees should be directed to Buffy Madrigal-Adams, Well Licensing Specialist, at (971) 287-8305 or Buffy.M.Madrigal-Adams@water.oregon.gov.

START CARD SYSTEM NOW MOBILE FRIENDLY

The Water Resources Department (OWRD) has updated the Start Card e-file system with a new option on the landing page: "Manage Start Card Notifications (Mobile Friendly)." As the name implies, you can use this option to file your Commence Work and Seal Placement notifications from your mobile device in the field.

To access the e-file system from your mobile device, simply go to the [OWRD homepage](#). Under the Groundwater and Wells section, click [Resources for Well Constructors](#). On that page, click on the Site Navigation button to open the side menu. Click on "E-file Start Cards." This will bring you to the [Well Constructor Login Page](#) for the e-file Start Card application where you will enter your login credentials to access the system.

Once logged in, select the "Manage Start Card Notifications (Mobile Friendly)" option. Upon clicking the link, it will bring you to a table of all your open Start Cards and the notification status.

You will submit the notification by selecting "Give Notice" for the Start Card, then choosing "Commence Work" and/or "Seal Placement", with dates, followed by clicking the "Add" button.

For questions about notification requirements, please contact Travis Kelly, Well Construction Compliance Coordinator, at (971) 304-5079 or Travis.N.Kelly@water.oregon.gov.

WELL CONSTRUCTION VIDEO TUTORIALS

The WCC Section has created video tutorials to help existing drillers comply with the well construction requirements, and also as a means of providing information and study tools for applicants to prepare for the drillers license exam. Exam applicants can explore videos covering Oregon Administrative Rules (OARs) 690-200 through OAR 690-240 that relate to water and monitoring well construction. Additional videos for exam applicants include, "Groundwater Hydraulics," "Reporting Lithology/Rock Types," and the "Well ID Program." A video currently in the works is intended to help prepare prospective well constructors for the driller's exam, providing useful tips and tricks to navigate the rules and statutes.

Existing drillers can also benefit from the videos that have been created to address some of the major changes from House Bill (HB) 2145, including "How to E-file Start Cards," "Well Constructor Notification Tutorial," and "Special Standard Requests Using the Start Card E-file Application." Upcoming videos include topics such as how to e-file a well report, as well as others.

Online Learning

Please visit the [Well Construction Program Video Tutorials](#) web page to see the list of available videos, as well as the videos that are upcoming. If you have a topic that you feel would be useful in a video format, feel free to contact Buffy Madrigal-Adams, Well Licensing Specialist, at (971) 287-8305 or email at Buffy.M.Madrigal-Adams@water.oregon.gov.

DEDICATED MEASURING TUBES

Dedicated measuring tubes installed in a well provide a convenient avenue to obtain consistent static water levels in critical and limited groundwater areas. Being able to reliably measure static water levels allows the Department the ability to identify groundwater level trends when they first appear.

Areas that require the installation of measuring tubes at the time of pump installation, repair, or replacement, are the Eola Hills Groundwater Limited Area, Mosier Area, and Petes Mountain Area. To see these on a map, visit https://apps.wrd.state.or.us/apps/gw/wl_well_report_map/Default.aspx. The search bar at the top right of the page can be used to look up a property or location to see if it falls within the boundaries of the area. When wells are constructed in these areas, the Department will mail letters to the landowners notifying them of the measuring tube requirement. Additionally, the regional well inspectors will put stickers on the wells to let landowners and pump installers know that there is a measuring tube requirement for the well.

When installing a dedicated measuring tube, it is important to remember that:

- The measuring tube must be a minimum ¾-inch diameter Schedule 40 PVC that extends to the top of the pump.
- The measuring tube may only be reduced in size to ½-inch where it goes through the watertight well cap.
- The measuring tube shall be vented above and below the well cap.
- The measuring tube shall be attached to the pump column at 10-foot intervals with 10 mil plastic tape.
- The lower five feet of the dedicated measuring tube shall be either 0.020 inch machine-slotted well screen, or the lower 20 feet shall be extensively perforated with 1/8-inch holes.
- The measuring tube shall be plugged or capped at the bottom.

Questions regarding measuring tubes should be directed to Tommy Laird, Well Construction Program Coordinator, at (503) 302-8618 or Tommy.K.Laird@water.oregon.gov.

MATERIAL DESCRIPTIONS ON WELL REPORTS

When reviewing well reports, the well log section and the recorded materials encountered are the most important sections considered while verifying minimum construction standards. This information helps the Department determine which annular seal standards apply, as well as the minimum seal depth. Along with this, proper geologic logging also allows for a better understanding of the sub-surface environment in each area. Drillers are encouraged to take care to adequately describe any formations encountered during drilling, as listing only "rock" as a material type encountered is not sufficient and will likely result in a call from the well report reviewer.

For information about geologic formations in Oregon, see the interactive map on the Oregon Department of Geology and Mineral Industries (DOGAMI) website at: <https://gis.dogami.oregon.gov/maps/geologicmap/>. In addition, the book titled "Roadside Geology of Oregon" is also an excellent resource.

For questions about well log reporting requirements, please contact Travis Kelly, Well Construction Compliance Coordinator, at Travis.N.Kelly@water.oregon.gov or (971) 304-5079.



LOW-TEMPERATURE GEOTHERMAL WELLS

Oregon is home to a remarkable geologic phenomenon known as hydrothermal systems. These systems, caused by the upwelling of Earth's internal heat from the mantle, provide a source of heat to naturally super-heat groundwater, which can then be converted into a source of energy, known as geothermal energy. This energy is then transformed into electricity, providing a renewable and sustainable source of power for both residential and industrial uses. Traditionally, steam turbines and very high-temperature geothermal resources were used to create electricity, however, more recent technological innovations have enabled electricity generation at lower temperatures.

Much of Oregon's geologic makeup is characterized by high volcanic activity and tectonic plate interactions. This geologic setting creates the perfect conditions for hydrothermal systems and geothermal energy extraction by means of geothermal production and injection wells. While the benefits of hydrothermal water wells are evident, the extraction and use of the water must be approached with caution to ensure the preservation of the surrounding ecosystems and the careful consideration of potential environmental impacts. In Oregon, regulations and conservation efforts are in place to mitigate these effects and safeguard the State's unique natural resources. The Oregon Water Resources Department offers protection in the form of well construction standards and procedures for geothermal water wells with a bottom hole temperature of less than 250 degrees, while geothermal wells with a bottom hole temperature greater than 250 degrees, or greater than 2,000 feet deep, are handled by the Department of Geology and Mineral Industries.

As the importance of clean energy and sustainable resources continues to grow, geothermal production from water wells in Oregon will play a more significant role in the state's energy landscape. The ongoing development of advanced geothermal technologies, coupled with continued conservation efforts, will ensure that these valuable resources are harnessed responsibly and that Oregon's natural resources are maintained for many years to come.

For questions about this article, please contact Bobby Buckmister, SWR Well Inspector, at (541) 218-5122 or Bob.N.Buckmister@water.oregon.gov.

WELL HEADS AND TURBINE PUMPS

During several recent well inspections, it has been noted that well heads have been lowered by landowners to facilitate the installation of turbine pumps. Turbine pumps, which are a type of centrifugal pump that are commonly used across Oregon for agriculture and irrigation purposes, are specifically designed to handle high flow rates in low to medium head applications and are very effective in efficiently moving large volumes of water. This efficiency makes them ideal for large-scale irrigation, and simply adds to the benefits of their use, which includes their compact design, durability, reliability, and ease of installation.

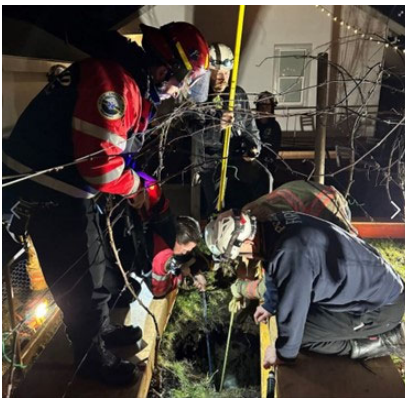
As the Department continues inspecting wells with turbine pumps, we are asking for the assistance of the drilling community in the education of well owners on the proper installation of these pumps and the alternatives to lowering well heads. In order to adequately protect the groundwater resource, the best way to install a turbine pump is to install a pump pedestal around the well. The pedestal supports the weight of the pump and allows the top of the well head to remain at the required 12-inch height above land surface, or the pumphouse floor. Another preferred option is to install a flange on the well head that supports the pump. Both of these options meet State requirements and allows the property owners to utilize a turbine pump when needed.

Questions about the maintenance requirements for wells should be directed to Tommy Laird, Well Construction Program Coordinator, at (503) 302-8618 or Tommy.K.Laird@water.oregon.gov.



PORTLAND DOG FALLS INTO DUG WELL

Poor Bug the dog was simply enjoying a beautiful day in his backyard when he suddenly fell 10 feet into an old dug well. Fortunately, his owner was nearby when it happened and was able to immediately contact Portland Fire and Rescue.



Workers attempt to rescue Bug the dog

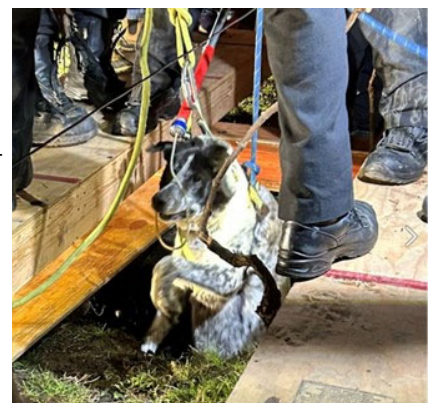
The responding crew used a high-angle rope rescue kit, trench rescue gear, and savvy dog skills to save the pup from the bottom of the dug well. They were able to attach a rescue rope to Bug's harness, while getting an additional rope snugged behind his front legs and around his torso, providing two points of contact for the dog's safe trip to the surface. When placing a human on the rope system, the fire department always uses primary and safety lines, and it is no different when rescuing a pet.

To prevent this type of event from happening again, the Oregon Water Resources Department is working with the landowner to properly

cover the dug well until it can be permanently abandoned. Improperly maintained or abandoned dug wells are a threat to landowners, their families, friends, and their beloved pets.

Contact Tommy Laird, Well Construction Program Coordinator, at (503) 302-8618 or Tommy.K.Laird@water.oregon.gov for questions related to dug well abandonments.

Photo credit: Portland Fire & Rescue



Bug the dog is pulled out of the well.



PHOTOS FROM THE FIELD



Buffy Madrigal-Adams checking a driller's license



A new well in East Region

Friendly visit during well inspection



Well with deficient seal in NC Region





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