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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](mailto:Kristopher.R.Byrd@water.oregon.gov)



Serving the public by practicing and promoting responsible water management.

## MEET GRAYSON FISH: NEW SC REGION INSPECTOR



Please join the Oregon Water Resources Department (OWRD) in welcoming Grayson Fish as the new South Central Region Well Inspector out of the Bend office. He replaces Bill Nashem, who has taken on the position of Watermaster for District 24.

Grayson has lived his entire life in the Pacific NW and has always had a passion for the outdoors. As a Registered Geologist, he is excited to talk with drillers throughout the region about what they are seeing in the subsurface and how that affects well

construction and production. Prior to joining OWRD, Grayson worked as an environmental consultant on cleanup and investigation sites around the Pacific NW. When it comes to his free time, Grayson enjoys hiking, camping, exploring the outdoors, and is looking forward to getting a vegetable garden planted for this growing season as well as trying out some new homebrew beer recipes.

Grayson may be contacted at [Grayson.C.Fish@water.oregon.gov](mailto:Grayson.C.Fish@water.oregon.gov) or (971) 283-1039.

## TECHNICAL WELL REPORT REVIEWS

House Bill (HB) 2145 was passed during the 2021 legislative session to:

1. Modernize and increase efficiency within the well construction program to prevent well deficiencies that can lead to contamination or waste of groundwater.
  2. Better protect groundwater resource for Oregonians.
  3. Give the well construction industry timely assurance that their work is being performed in a manner that is consistent with state requirements.
- As the Department implements the bill, the focus remains on improving the program to better serve well owners and the well drilling community.

July 1, 2022, marked another step in this progression as OWRD began performing the technical review of 100% of the well reports submitted. These reviews ensure well reports are complete and, based on information contained in them, that each well appears to have been constructed in accordance with minimum well construction standards. Technical reviews are now another mechanism, in addition to inspections, to identify potential construction deficiencies. The new review process also includes a notification to the bonded well constructor that their reports have been evaluated within 120 days of submittal of the report. Additionally, OWRD follows up with drillers regarding any potential issues found during well report reviews.

Well constructors should verify that their email address is up to date with OWRD to ensure they can easily be notified regarding well report reviews. Contact information may be updated by clicking "Update Contact

## WELL REPORT REVIEWS, cont'd

Information" under "Resources for Well Constructors" on the WRD homepage.

Questions about implementation of the bill? Please contact Travis Kelly, Well Construction Compliance Coordinator, at (971) 304-5079 or [Travis.N.Kelly@water.oregon.gov](mailto:Travis.N.Kelly@water.oregon.gov).

## NITRATES IN MORROW COUNTY DRINKING WATER



For the first time in history, an Oregon county has declared a state of emergency due to water quality issues. On June 9, 2022, Morrow County Commissioners voted in favor of the measure which allows the county to implement immediate actions to protect drinking water. The county has plans to distribute bottled water and to set up water distribution centers in Boardman for residents to fill large containers.

Nitrates, a naturally occurring chemical that's also a customary ingredient in fertilizer, has been an issue for Morrow County residents who rely on water supply wells for their drinking water and domestic uses. Used properly, nitrates are beneficial nutrients that assist in crop growth. However, when an excess of nitrates seep into the groundwater, they become pollutants that can cause respiratory infections, thyroid dysfunction, and bladder cancer.

The Oregon Department of Emergency Management coordinated the state-level support, which was provided by teams from DEQ, Oregon Health Authority, Department of Human Services, Department of Agriculture, and Water Resources Department. DEQ and state agency partners are continuing to work with Morrow County on developing short-term solutions, which could include helping to install water filters on wells, connecting more residents to public water systems, and enhancing outreach in both Morrow and Umatilla County to ensure both English and Spanish-speaking residents are aware of potential well safety issues and recommendations and resources for testing their well water. State agencies will also be meeting with the Governor's Office and local government to discuss longer term solutions for the area including funding opportunities. ([www.opb.org](http://www.opb.org), June 10, 2022).

## DRY WELL REPORTING

As of July 7, 2022, there have been approximately **673** dry well complaints collected by the Department. Based on the reported numbers, roughly 57% come out of Klamath County; 22% from Jackson County; and the remaining 21% from other parts of Oregon. The reported wells vary in depth, from as shallow as 10 feet, to as deep as 640 feet.

### Number of Dry Well Complaints per County

Baker	3	Lake	8
Benton	3	Lane	3
Clackamas	8	Lincoln	6
Clatsop	1	Linn	4
Coos	3	Malheur	5
Crook	3	Marion	8
Deschutes	44	Polk	3
Douglas	3	Umatilla	1
Grant	2	Wallowa	1
Harney	5	Wasco	2
Jackson	154	Washington	5
Jefferson	2	Yamhill	1
Josephine	11	<b>TOTAL</b>	<b>673</b>
Klamath	384		

Landowners with dry wells are encouraged to report them to OWRD as there may be funding and other assistance available for their area of the state.

Also, reporting dry wells or significant reductions in output helps scientists and water managers better understand changes in groundwater quantity and how these changes are affecting folks that rely on groundwater sources.

For more information, please visit the OWRD homepage and choose "Report a Dry Well." Information about current conditions and impacts are available on the WRD drought page: <https://www.oregon.gov/owrd/programs/climate/droughtwatch/Pages/default.aspx>.

## GPS COORDINATES & YOUR SMARTPHONE



Well Construction Program modernization efforts mandated by House Bill 2145 (2021), require that well constructors report GPS coordinates on their well reports beginning July 1, 2023. Those that do not have a GPS device such as a Garmin or BadElf unit, can use their smart phone to get GPS coordinates of the well location.

A common application (app) on both Android and Apple phones is Google Maps. Drillers can open the app and with the phone over the well, hold their finger on it to drop a red pin.

As they scroll down on the Dropped Pin page, they will see coordinates in decimal degrees (Users should remember to put a negative in front of the E or W coordinate). This app works best when cell phone service is available.

Another app that can be used is Timestamp Camera Basic, which works on both Android and Apple phones. This app allows individuals to take a picture of the well and will water-mark the photo with date, time, and GPS coordinates. Before they leave the site, a person can take a photo of the completed well so that they have the GPS coordinates and well condition. The photo may be particularly useful to demonstrate compliance in a situation where a land-owner makes alterations to the well after the well constructor leaves the site.

Well constructors that are unable to obtain GPS coordinates in the field will have another chance to provide them during e-filing of the well report. The mapping tool within the e-file application allows drillers to mark an "x" at the location of the well, and it will also provide both GPS coordinates and township, range, section, and QQ/Q.

Questions about upcoming program changes based on HB 2145 should be directed to Travis Kelly, Well Construction Compliance Coordinator, at (971) 304-5079 or [Travis.N.Kelly@water.oregon.gov](mailto:Travis.N.Kelly@water.oregon.gov).

## PAYMENT FOR PAPER START CARDS & WELL REPORTS

For well constructors submitting Start Cards and Well Reports via mail rather than e-filing, please send in **separate checks** for the recording fees and Start Card fees.

For example: if you are sending 3 Start Cards and 2 Well Reports in the same envelope, you would write one check for \$1050 to cover the Start Cards, and a check for \$600 to cover the recording fees.

Please **make notes in the memo line** referencing the fees being paid and where the Department should direct them.

Questions? Please contact Buffy Madrigal-Adams, Well Licensing Program Specialist at (971) 287-8305 or [Buffy.M.Madrigal-Adams@water.oregon.gov](mailto:Buffy.M.Madrigal-Adams@water.oregon.gov).

## WATER WELL ABANDONMENT, REPAIR & REPLACEMENT FUND

The Water Well Abandonment, Repair & Replacement Fund (WARRF), which provides financial assistance to persons or members of a federally recognized Indian tribe in Oregon to permanently abandon, repair, or replace a water well used for household purposes, officially began accepting applications on June 1, 2022.

The fund, with approximately \$5.4 million available for disbursement, is available for applicants of low-to-moderate income. Applicants also must be the property owner, live at the residence, and not have an alternate source of water available. Households experiencing dry wells due to drought or wildfire are prioritized to meet urgent public health needs. The Department anticipates a broader set of wells will be eligible for funding in future biennia.

Wells not eligible for funding include public water systems or public wells, monitoring or observation wells, low-temperature geothermal wells, water supply wells not plumbed to the applicants house, and wells for new residential development, unless the residence was destroyed by a natural disaster. Replacement wells must have the same diameter as the original well and the original well must be abandoned unless pre-authorized by OWRD.

In addition, if the original well is less than 6 inches in diameter, the replacement well may exceed the original well diameter but shall not exceed 6 inches.

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WARRE, cont'd

To help assist as many Oregonians as possible with the funding program, there is a limit of \$40,000 per applicant. For more information, please contact the Well Fund Program at [OWRD.Well.Funding@water.oregon.gov](mailto:OWRD.Well.Funding@water.oregon.gov) or (503) 779-5763.

## NC REGION GEOLOGY

Most people look at the North Central Oregon region and see grassy fields surrounded by rolling hills that are adjacent to cliffs dropping to the north and merging with the Columbia River. One such observer might feel the constant barrage of wind gusts, and upon clearing the dust from their eyes, they would see outcrops of rocks in column structures along the river. These columns, or colonnades, are vertical or nearly vertical, for tens to hundreds of feet and tower against the hillside. These features are crested by hills of loose dirt on top and adjacent to the Columbia River below. At first glance, the landscape might appear to be boring or unremarkable, but first impressions can be wrong.

Hundreds of millions of years ago in this same region, the old coast lines used to surge waves against what are now the Blue Mountains. These actions left behind shoreline and oceanic rock features and fossils in that ancient coastal area.

As time continued, volcanic and crustal activity changed the landscape and the boundary moved closer to the present-day coastline. That movement of coastline changed both surface and deeper structures. Below the crust, heat collected and released streams of lavas covering the regional landscape. Cracks developed over the land and vents oozed molten rock that covered structures that to this day are left forgotten.

The region was topped by numerous flows with layered lava, ultimately cooling to basalt and often leaving the remaining colonnade structures outcropped. When one flow was not enough, the earth ejected multiple flows over a nearly 15-million-year history. Flow upon flow upon flow, mixed in with sediments and wind-blown material to make a layered cake-like structure ending about 2 million years ago.

Then starting about 17 thousand years ago, numerous massive water flood events originating in Montana, crisscrossed their way over the land, all heading towards the Pacific Ocean in the easiest route for them to carve.

*Continued above right*

The floods shaped the landscape, removing surface rocks and exposing deeper basalt units, and leaving behind exposed rock remnants such as Hat Rock or Hermiston Butte. Waters moved so fast and with so much volume, that rock from Montana was transported to the hills around the Hermiston area. One could only imagine what a sight this must have been. This cake, which was layered and cut into, was then lightly frosted with dustings and eroded sediments several feet thick from the same local broken rock, or from as far away as the Blue or Cascade mountains.

Researchers continue to study the region to help their understanding of the local geology. To aid in this study, well constructors are encouraged to collect drill cuttings from wells. Cuttings provide a record of geologic history and aid in the understanding of sub-surface structure. Questions or comments about information key to well reports and reporting lithology should be directed to Travis Kelly, Well Construction Compliance Coordinator, at (971) 304-5079 or [Travis.N.Kelly@water.oregon.gov](mailto:Travis.N.Kelly@water.oregon.gov)

## OLD UNUSED WATER WELLS

Every parcel of land has its own unique history, including the occasional addition of structures and wells. The problem with wells, however, is that they are not generally as easy to see as a structure and may eventually become unused and neglected. In such cases, these wells may end up posing a potential risk to the groundwater resource, especially if not properly maintained or abandoned.

*Potential Problems Caused by Old Unused Water Wells:*

1. There may be liability issues to consider if an old well on the property is proven to be a conduit for contamination that reaches neighboring groundwater.
2. Casings may deteriorate and be built over by land-owners, thereby creating a land use issue.
3. Dug wells can create a physical safety hazard for construction equipment in addition to a danger to people and animals that may be killed or injured falling into the well.

*What to Do with an Old Unused Water Well:*

Once a drilled or dug well is determined to have no current or future use, an Oregon-licensed and bonded well constructor should be contacted to decommission the well. Drillers have knowledge of well abandonment requirements and will take care of the necessary paperwork.

Questions or comments about well decommissioning should be directed to Tommy Laird, Well Construction Program Coordinator, at (503) 302-8618 or [Tommy.K.Laird@water.oregon.gov](mailto:Tommy.K.Laird@water.oregon.gov).



# PHOTOS FROM THE FIELD



Well inspection visitor



Buried well in the NW Region



Well inspection in the NC Region



Cows observe a well inspection



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## WELL SAID NEWSLETTER - Oregon Water Resources Dept

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