



VOLUME 22 NUMBER 2 MISSOURI DEPARTMENT OF NATURAL RESOURCES SECOND QUARTER 2015

## Well Installation Board News

The Well Installation Board held its quarterly meeting Monday, Feb. 23, 2015, in Lake Ozark, Mo. The Board received updates about program and section activities and changes to the Special Area 2 map. Jacob Westen, Missouri Assistant Attorney General, gave a brief update about Missouri One Call requirements, and a presentation was given by Water Resources Center staff regarding pump test requirements for public wells. Discussion also was held regarding apprentice requirements.

The next quarterly meeting is scheduled for 10 a.m., Thursday, May 21, 2015, in the Mozarkite Conference Room at the Department of Natural Resources' Missouri Geological Survey, 111 Fairgrounds Road, Rolla. The August meeting will be held Friday, August 28, 2015. The location of the meeting will be determined at a later date.

## Rule Update

The Section continues to work to update rules.

The following rules are in initial development and stakeholder meetings have been completed:

- 10 CSR 23-1.010 – Definitions
- 10 CSR 23-1.030 – Types of Wells
- 10 CSR 23-1.040 – Modification by the Division (Variances)
- 10 CSR 23-3.110 – Plugging of Wells

The Well Installation Board approved the "Finding of Necessity" for revision of 10 CSR 23-1.075. Disciplinary Action and Appeal Procedures, and the proposed rule language is undergoing legal review. The next step is to file the rule with the Secretary of State's Office for publishing in the *Missouri Register* for public review and comment.

Wellhead Protection Section staff are developing proposed changes to 10 CSR 23-3 Water Well Rules and plan to hold stakeholder meetings to review proposed language by summer 2015.

Updates to Chapter 4 Monitoring Well Rules, Chapter 6 Test Hole Rules, and Chapter 1 Permitting requirements are planned with stakeholder meetings likely scheduled in 2016.

For more information, visit the Geological Survey Program's Rules in Development Web page at

[dnr.mo.gov/geology/geosrv/geo-rules-in-dev.htm](http://dnr.mo.gov/geology/geosrv/geo-rules-in-dev.htm).

Available drafts of proposed rule revisions will be posted as well as upcoming stakeholder meetings.

## Permit Renewal Changes

The department is moving to a permit cycle in which all permits are due on the same date. Therefore, all well, pump and heat pump installation contractor permits will expire Oct. 1, 2015. This change will increase efficiency in state government and will be less confusing and cumbersome for companies that have multiple employees who hold permits that expire at different times during the calendar year. In order to begin this process, permit fees during the next year will be pro-rated to reflect the new expiration date. The total amount due will be noted at the bottom of all letters. Please submit the proper amount to the department.

Contractors are advised to renew permits before the expiration date. Failing to renew before the permit expires will result in a 40 percent late fee, if renewed within 30 days of expiration. Permits that have been expired more than 30 days will be cancelled. A contractor who continues working without a permit is in violation of 10 CSR 23-1.090. If a permit is cancelled, the permittee will have to re-apply for a permit, take the appropriate test, and may be required to post a bond and be required to prenotify all work for one year.

## Online WIMS Update

Contractors now have the ability to change or add permitted machines online. Visit our website at [dnr.mo.gov/mowells/](http://dnr.mo.gov/mowells/) and choose "Contractor Login Required." Contractors need to sign in with their permit number and the confirmation code. Mark to change or add rig, then follow the on-screen directions. The new vehicle permit must be printed before leaving the website. Contact Jeannie Hoyle at 573-368-2450 or our office at 573-368-2165 for assistance.

## Radius Search

The Wellhead Protection section continues to make more services available online. A feature recently added to the Wellhead Online Services ([dnr.mo.gov/mowells/](http://dnr.mo.gov/mowells/)) is a latitude and longitude radius search. Located at the top of the page, one can use the general search or the latitude and longitude radius search. This allows contractors and members of the public to locate any well in the WIMS database surrounding a specific location. The area of the search can be increased by quarter-mile increments up to a distance of two miles. The search also can be refined by selecting the well type the user wants to locate.

## Staff News

### Andrew Combs Joins the Section



Andrew Combs recently joined the Wellhead Protection Section as an Environmental Specialist. Andrew transferred from the department's Water Protection Program where he was a permit writer for wastewater discharges and other contaminant sources.

Andrew holds a bachelor's degree in Environmental Science with a minor in Environmental Regulation and Policy. He has experience as a Combat Engineer (12B) in the U.S. Army and as a Military Instructor. Andrew currently is in the Army Reserves where he serves as an Environmental Scientist Officer and the commander of the 1863rd Preventive Medicine Detachment. Andrew will work primarily with heat pump systems, checking records and conducting site visits. He will be involved with case work regarding well plugging and other field activities.

### Christy Miner Leaves the Department

Christy Miner accepted a position with the Department of Agriculture, effective January 16. Christy's contributions to the section will be greatly missed, but we wish her well in her new responsibilities. "I enjoyed working in the Wellhead Protection Section very much and learned a great deal during my time here. This section, and the Missouri Geological Survey as a whole, is filled with great people who are excellent to work with. I've also enjoyed the opportunity to interact with the drilling industry and have a new appreciation for the protection of Missouri's groundwater. I truly appreciate the opportunities that were offered to me, and will always have many fond memories of my experiences with the Wellhead Protection Section," Christy said.



## Receive Updates Via GovDelivery



**Get Updates  
on this  
Issue**

GovDelivery allows subscribers to receive updates about topics relating to Wellhead Protection. Multi-colored envelope icons are available on many of the department's Web pages identifying this service. Individuals are able to create a personalized subscription list of content. When content changes, such as rule updates, GovDelivery sends email or text alerts informing subscribers. Get started at [dnr.mo.gov/geology/geosrv/wellhd/](http://dnr.mo.gov/geology/geosrv/wellhd/) and click on the envelope, enter your email address or sign in using social media, and choose the topics for which you would like to receive updates.

## Contractor and Apprentice Well and Pump Installation Testing Schedule

All tests begin at 9 a.m.

The following 2015 testing dates are scheduled at the Missouri Geological Survey, Annex Building, 1251 Gale Drive, Rolla.

May 13, 2015	Sept. 16, 2015
June 10, 2015	Oct. 14, 2015
July 8, 2015	Nov. 18, 2015
Aug. 12, 2015	Dec. 9, 2015

Testing dates may be modified if necessary.

**Please bring a picture ID with you to the testing site.**

If you are applying for a non restricted permit, please be sure to bring your global positioning unit (GPS) and operating manual to the test site. Your GPS unit should be programmed to read in degrees, minutes, and seconds in accordance with 10 CSR 23-3.060(5).

If you have questions concerning this schedule or testing please call 573-368-2450. Persons with disabilities who may require special services may contact Jeannie Hoyle at the number above.

## Wellhead Protection Section Online Directory

- Missouri Well Construction Rules: [sos.mo.gov/adrules/csr/current/10csr/10csr.asp#10-23](http://sos.mo.gov/adrules/csr/current/10csr/10csr.asp#10-23)
- The Department's Website: [dnr.mo.gov/](http://dnr.mo.gov/)
- The Wellhead Protection Section Website: [dnr.mo.gov/geology/geosrv/wellhd/index.html](http://dnr.mo.gov/geology/geosrv/wellhd/index.html)
- Online Well Information: [dnr.mo.gov/mowells](http://dnr.mo.gov/mowells)
- Wellhead Protection Section Email Address: [welldrillers@dnr.mo.gov](mailto:welldrillers@dnr.mo.gov)
- Rules in Development: [dnr.mo.gov/geology/geosrv/geo-rules-in-dev.htm](http://dnr.mo.gov/geology/geosrv/geo-rules-in-dev.htm)

## Report Abandoned Wells Online

A feature recently was added to the online "Report an Environmental Concern" form that allows reporting of abandoned wells. Please provide GPS latitude and longitude coordinates when possible, to aid in location of the well. You may add your email address if you would like to be contacted; otherwise, reporting is anonymous. Please use this form and share the link with others [[dnr.mo.gov/concern.htm](http://dnr.mo.gov/concern.htm)]. A link to the form is located below the contact information on the main Wellhead Protection section Web page at [dnr.mo.gov/geology/geosrv/wellhd/](http://dnr.mo.gov/geology/geosrv/wellhd/).

## Welcome Contractors

The following individuals are now part of the Missouri Department of Natural Resources' permitted contractor community:

Aqua Wells Inc – James Mallonee  
Boessen Underground – Charles Kiss  
Cardno ATC – Brian Lieb  
Douglas Pump Service – Anthony Smerk, Kyle Shrader  
Gingerich Well & Pump – Dillon Gingerich,  
Dennis Chittick  
Industrial & Petroleum – Donna Cody  
Layne Christensen – Douglas Assenmacher  
Leggette, Brashears & Graham – Cassandra Puletapuai  
Odyssey Environmental – Zachary Hoppes, Jason Miller,  
Frederick Bahrenburg IV, Jeffrey Zelko, Steven Venios  
Robertson Inc – Chad Wyatt  
Smith Refrigeration – Charles VanBoening  
Terracon – Anthony Bollasina  
Tetra Tech – James Christopher

## Welcome Apprentice Contractors

The following individuals are now part of the Missouri Department of Natural Resources' permitted apprentice contractor community:

Compton Irrigation – Kyle Compton  
Industrial & Petroleum – Cody Reno, Jacob Miller,  
James Shumard  
Huston's Pump Service – Nathan Anderson, Brian Massa  
Welker Drilling – Travis Cook

## Farewell

The people addressed below are no longer permitted to operate as contractors according to the Water Well Drillers Act and Missouri Well Construction Regulations:

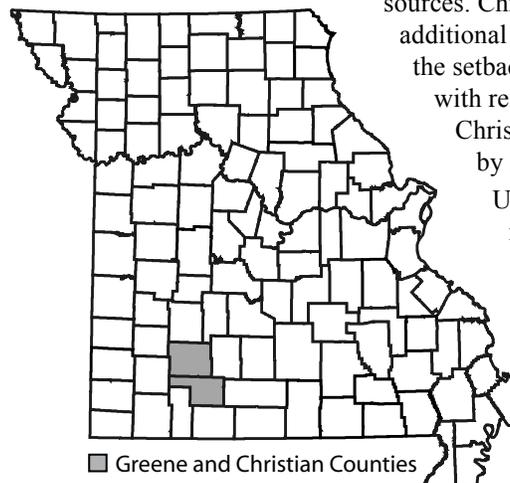
Aecom Environment – J Thomas Swigonski  
Arcadis – Larry Benolkin  
Bodenhamer, Steven  
Dorn Pump Service – Trever Cantrell  
Ensafe Inc – Jason Kuykendall, William Backus  
Geo Drill Inc – John McMullan  
Huston, Richard  
JM Sales & Pump Service – Jacob Minton Jr  
Korte Rotary Well Drilling – Daniel Korte  
Limback Plumbing & Heating – Larry Limback Sr  
Lindenbusch, Brad  
Midwest Environmental – Thomas Bieker  
Miller, Derek  
MODNR – Meagan Prestegard, Sabir Vali,  
Gregory Jarman  
Natural Resource Technology – Philip Brochocki,  
Eric Kazonovitz, Ronald Horan  
Professional Environmental Eng – Robert Louden  
Seagull Environmental – Richard Claytor  
Shelton Sales & Service – Randy Shelton  
Tec Air Inc – Charles Haas  
Terracon Consultants – Samantha Keeran  
Tetra Tech Inc – Mark Sievers, Jessica Kidwell  
Triad Environmental Services – Dennis Meier  
URS Corp – Andrea Christensen  
Weston Solutions – Joseph Klemp  
Wil Co Drilling – Joshua Stoner

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## Drilling in Greene or Christian County

County and municipal regulations regarding water well construction may be more stringent than those stated in the Missouri Well Construction Rules. Standards governing setback distances and permitting procedures can vary by county and municipality. For example, regulations in place for two southwest Missouri counties have been augmented to manage problems that are unique to their region.

To address environmental concerns specific to local geologic conditions, Greene and Christian counties in southwest Missouri have additional requirements to consider when planning and constructing a well, specifically with respect to on-site wastewater treatment systems. Greene County requires a construction permit prior to drilling. The associated \$145 fee covers the cost of a site evaluation by the Greene County Resource Management Department's Environmental Section. The site



evaluation considers the proposed well location with respect to septic systems and other potential contaminant sources. Christian County, in contrast, does not require additional permitting for well construction. However, the setback distance for a vertical heat pump well with respect to a septic lateral field is 150 feet in Christian County rather than the 100 feet required by Missouri Well Construction Rules.

Under circumstances where the contractor is unable to meet the standards specified in the Missouri Well Construction Rules, the Missouri Geological Survey (MGS) may consider modification of the rules through the variance process. Variances issued by MGS, however, do not necessarily apply to local ordinances. It is therefore the responsibility of the contractor and of the property owner to stay abreast of, and to comply with, county and local regulations regarding water well permitting and construction.

# GeoSTRAT – Online Tool Makes Debut



Last year, the Missouri Geological Survey launched GeoSTRAT, the Geosciences Technical Resource Assessment

Tool. This tool makes geologic and hydrologic data available to citizens, contractors, industry representatives and others online, 24/7.

An Internet connection, a Web browser, and the free Google Earth Plug-in are needed to use GeoSTRAT. GeoSTRAT is best viewed using Google Chrome or Mozilla Firefox browsers.

GeoSTRAT can be used to locate wells, drilling areas, geologic logs and much more using the interactive map. It can be used for data assessments in various disciplines such as geologic assessments, environmental consulting and engineering, local and regional planning and others.

Data also can be downloaded in formats compatible with a variety of free and commercial mapping software, including Google Earth.

Give it try! Visit [dnr.mo.gov/geology/geostrat.htm](http://dnr.mo.gov/geology/geostrat.htm) and proceed to GeoSTRAT. For example, turn on the “Certified wells” layer (listed in the browser on the left) and type your address, a city, county or Zip code in the upper right search box, hit the zoom button, and click on individual wells to learn more about them. Well type, use, reference number and construction records can be viewed easily. GeoSTRAT also has 3-D viewing capabilities for added visualization of the land surface.

Read about GeoSTRAT in the winter 2015 issue of *Missouri Resources* magazine, online at [dnr.mo.gov/magazine/docs/mr-winter-15.pdf#page=16](http://dnr.mo.gov/magazine/docs/mr-winter-15.pdf#page=16). For additional information about GeoSTRAT, contact the Missouri Geological Survey at 573-368-2100.



# McCracken Core Library and Research Center

Since 1989, the Missouri Geological Survey, a division of the Missouri Department of Natural Resources, has managed the McCracken Core Library and Research Center. Named in honor of geologists Earl and Mary McCracken, this 21,000-square-foot facility, located in Rolla, is one of the largest public core and cuttings repositories in the United States. The core library houses a collection of core from more than 3,000 boreholes spanning 2.5 million linear feet, and cuttings from more than 15,000 wells. With an estimated replacement value of more than \$100 million, the information housed in this facility is of tremendous scientific and economic importance.

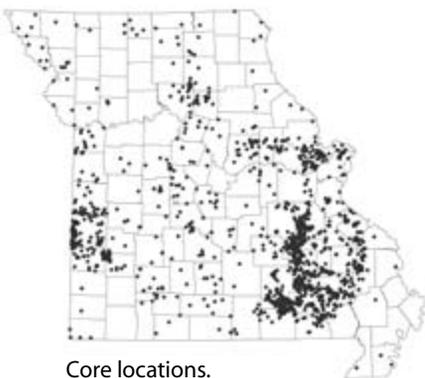
The center is widely used by industry, consultants, scientists, academia, government representatives and the public to access subsurface information. Core research preserves geological information, leads to a better understanding

of subsurface geology, hydrology, water resources and economic geology potential. Thanks to a cooperative effort, the core and cuttings come from many sources throughout Missouri, including highway department construction, oil, gas, and mineral exploration, water well drilling and various subsurface investigations. Keynote usage of the center ranges from carbon sequestration research and analyses of geothermal potential to exploration for rare earth elements and geologic hazards assessments.

The McCracken Core Library and Research Center is open by appointment during normal working hours. Well installation contractors may be well-served by the information held in this facility when drilling in unfamiliar areas of Missouri. To learn more about the center, and see a list of core and cuttings holdings visit this website: [dnr.mo.gov/geology/geosrv/geores/mccracken.htm](http://dnr.mo.gov/geology/geosrv/geores/mccracken.htm).



A partial view of the expansive 21,000-square-foot McCracken Core Library and Research Center.



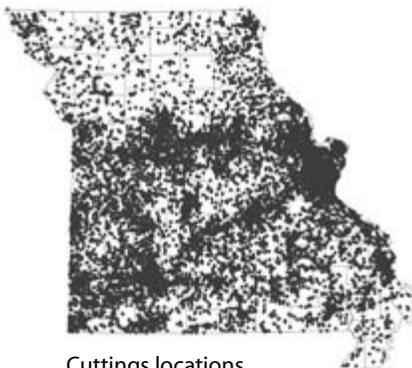
Core locations.



Core is stored in boxes and cataloged by location and depth.



Drill cuttings are placed in vials and cataloged by location and depth.



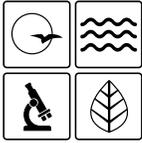
Cuttings locations.



A rock saw is used to segment the core for better analysis.



Brightly lit study and examination rooms are available at the facility.



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*The Connection* is published by the Missouri Department of Natural Resources' Missouri Geological Survey. Suggestions, ideas and comments concerning this newsletter are welcome. Send comments to: Missouri Department of Natural Resources' Missouri Geological Survey, Wellhead Protection Section, PO Box 250, Rolla, MO 65402-0250, phone: 573-368-2165 or fax: 573-368-2317.