LEADING TEXAS ENERGY
OIL & GAS ★ COAL ★ PIPELINES

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Energy News

From the Field Photo

Sunflowers
Photo by Randy Milligan

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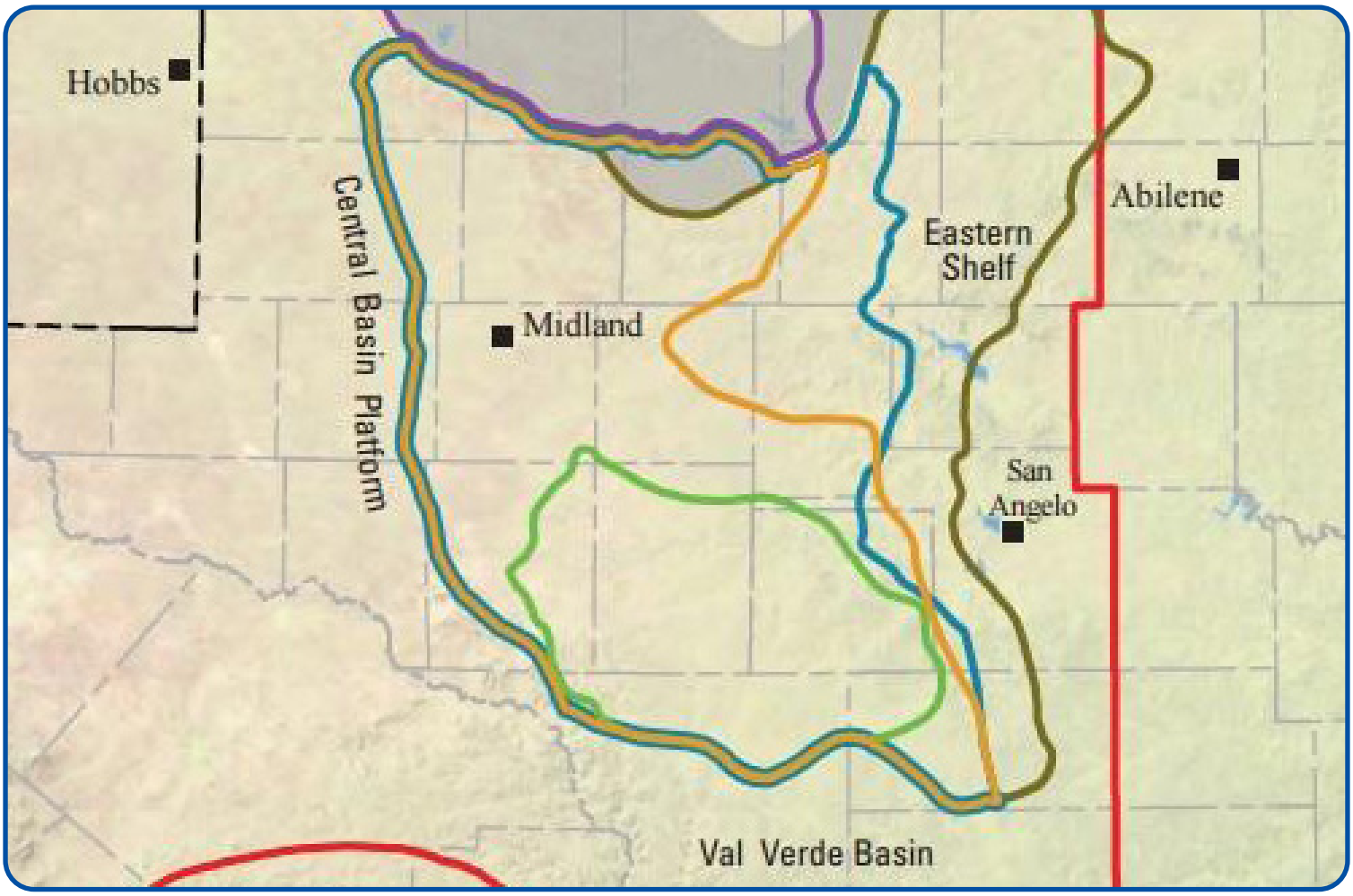


EIA Report Provides New Details on Potential of Midland Wolfcamp

Review Provides Abundance of Updated Information, Maps on Formation

The potential of the Wolfcamp Shale Play, which has been unlocked with advances in hydraulic fracturing and horizontal drilling over the last decade, is now much clearer after the August publication of a report from the U.S. Energy Information Administration.

The Wolfcamp Shale Play of the Midland Basin Geology Review includes updated cross-section and thickness maps and other information on "one of the largest hydrocarbon plays in the United States." The Midland section is one of five subbasins of the greater 75,000-square-mile Permian Basin, which also includes the Central, the Delaware, the Ozona Arch, and the Val Verde and produces 35% of total U.S. crude oil production and more than 13% of total U.S. natural gas production, according to the report.

The report's author, Dr. Olga Popova, notes that the Midland Wolfcamp formation contains an estimated "19 billion barrels of oil, 15 trillion cubic

feet of natural gas, and 1.5 billion barrels of natural gas liquids" of "undiscovered, continuous, hydrocarbon resources."

If those estimates are proven, it will considerably add to the potential of the Permian Basin, which has proven reserves that "exceed 11 billion barrels of oil and 46 trillion cubic feet of natural gas."

"I think this report reinforces what Railroad Commission staff has already been seeing for the last several years," said Lorenzo Garza, Deputy Assistant Director of Administrative Compliance in RRC's Oil and Gas Division. "With the multiple pay zones in the Wolfcamp and the ability of operators to reduce certain costs, we will see this formation targeted for continued development for years to come."

What makes Wolfcamp attractive is a "combination of abundant organic carbon, favorable rock mechanical properties, [and] permeable thin beds," according to the report. Since 2010, operators have drilled 875 vertical, 12 directional, and 2,190 horizontal wells in the reservoir, according to the report.

EIA's Popova reviewed more than 24,000 well logs to develop the report. She also used data from the EIA, the United States Geological Survey, the Texas Bureau of Economic Geology, Enverus Drilling Info Inc., peer-reviewed research papers, and academic theses.

The EIA identifies four benches, a stratigraphically "stacked play with four intervals," within the Wolfcamp, which averages about 1,800 feet in thickness.

"The Wolfcamp Shale is divided into four sections, or benches, known as the Wolfcamp A, B, C, and D," Popova writes. "In the Midland Basin, the four benches of the Wolfcamp formation each display different characteristics in terms of lithology, fossil content, porosity, total organic content, and thermal maturity."

Details about the benches will be useful to operators looking at potentially tapping the formation, especially information about total organic compounds or TOCs, Garza says.

"This report shows that the Wolfcamp benches are distinctly different from each other, not only in their vertical separation, but how they are composed," Garza says. "Those looking to lease their mineral rights could use this information to help in their negotiations with the developer."

The report notes that the Wolfcamp shale started becoming a target of producers in the 1960s and by 2010 produced "more than 246 million barrels of oil and 568 billion cubic feet of natural gas." With advances in hydraulic fracturing and horizontal drilling, Wolfcamp has produced "202 million barrels of oil and 125 billion cubic feet of natural gas" just since 2010.

To put that in perspective, the entire Permian Basin, including the New Mexico section, has produced 35.6 billion barrels of oil and around 125 trillion cubic feet of natural gas over the last 100 years or so, according to the report.

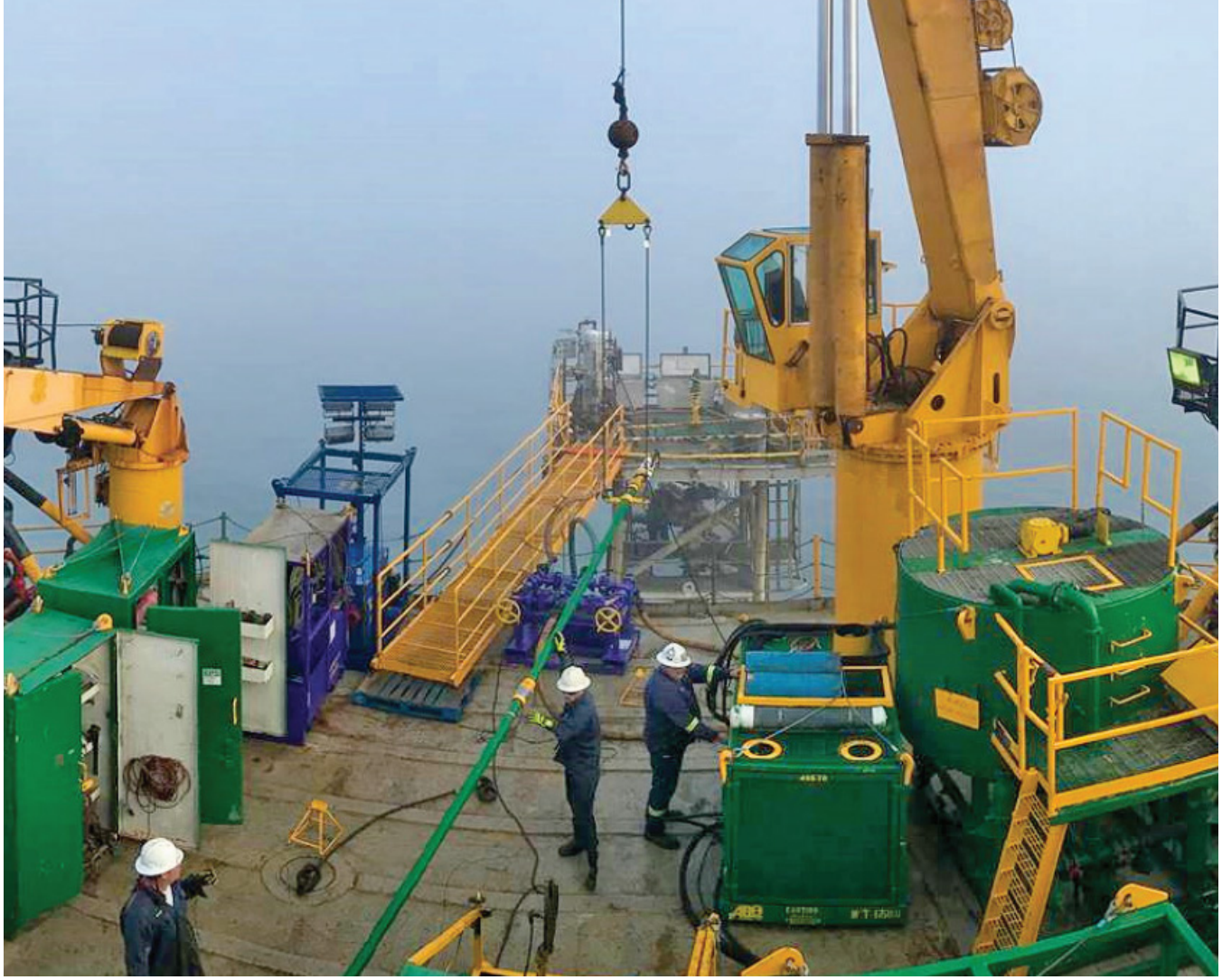
New oil and gas drilling technology will enable to the Permian Basin to continue its historic production, and detailed information about formations such as Wolfcamp will help the industry be as efficient as possible in maximizing the potential of their efforts.

"I think the report corroborates a lot of what we are seeing with the updating of statewide and field rules that encourage horizontal well development, especially in those formations that are not one continuous zone," Garza says.

The EIA report can be viewed at https://www.eia.gov/maps/pdf/Permian_Wolfcamp_Midland_EIA_reportII.pdf. Interactive maps incorporating the updated Wolfcamp information can be viewed in the U.S. Energy Mapping System at http://www.eia.gov/state/maps.cfm.

VIEW EIA REPORT ▸

VIEW MAPPING SYSTEM ▸



Despite bad weather conditions, RRC plugged this leaking well offshore of Matagorda Island in Calhoun County in January 2020. RRC's action helped protect Matagorda Island State Park and wildlife refuges in the area.

RRC Orphan Well Program Beats Legislative Goal for Fourth Straight Year

Commission Plugs Abandoned Oil and Gas Wells Using Industry Fees

The Railroad Commission of Texas' abandoned oil and gas well plugging program has exceeded its performance goal for the fourth year running.

With the fiscal year ending on Aug. 31, the agency plugged 1,477 orphan wells in Fiscal Year 2020, which exceeded the target of 1,400 set by the Legislature.

"The State Managed Plugging Program is an important part of our critical mission to protect public safety and the environment." said Danny Sorrells, RRC's Assistant Executive Director and Director of its Oil and Gas Division. "Given the current energy industry downturn, the program also helps to employ oilfield service company workers throughout Texas. These employees are contracted and supervised to plug abandoned orphan wells by the Railroad Commission of Texas."

ABOVE Well leaking produced water affecting a large area. Abilene

The State Managed Plugging Program is paid through industry fees rather than by taxpayers. This program addresses wells that are no longer productive and are considered orphaned in accordance with state laws and regulations. Railroad Commission staff prioritizes which orphan wells to plug based on potential risks to public safety and the environment.

The work done in the most recent fiscal year continues a positive trend in the RRC's work in exceeding performance targets.

In Fiscal Year 2017, the goal was to plug 875 wells, and the agency plugged 918 wells. In Fiscal Years 2018 and 2019 the performance goal was to plug 979 abandoned wells each year, and the agency plugged 1,364 and 1,710 respectively.

"A few years ago, we took a hard look at improving our State Managed Plugging Program," said RRC Director of Field Operations Clay Woodul. "We streamlined our internal processes, which, along with improved employee retention, has contributed to the success of the program. Our commitment continues even through limitations brought on by the COVID-19 pandemic."

Since it was established in 1984 to the end of the recent fiscal year, the agency's program has successfully plugged 41,132 orphan wells that were abandoned following oil and gas production.

See what the State Managed Program is doing in your neck of the woods with RRC's interactive data visualization map at https://rrc.texas.gov/data-visualization/oil-and-gas/state-managed-well-plugging/.

VIEW STATE MANAGED PLUGGING MAP ▸

More information about the State Managed Plugging Program can be found via this webpage: https://www.rrc.state.tx.us/oil-gas/environmental-cleanup-programs/state-managed-plugging/.

VIEW STATE MANAGED PLUGGING PROGRAM ▸

Prevent Pipeline Damage

Free 811 Safety Training Offered

The Pipeline Damage Prevention Program asks that all Texans utilize the Texas 811 service before excavating. We highly promote attending the free Tx811 Excavation Safety Trainings (also available in Spanish), schedule and registration links found at www.texas811.org/texas811webinars. You can reach the Pipeline Damage Prevention Program at 512-475-0512 or tdrfinfo@rrc.texas.gov.

VISIT TEXAS 811 ▸

A free, one-hour online training is also available for interested excavators to learn about the regulatory requirements of the 811 process, which includes requesting underground facility locations, line locator response to your request, incorporating safe excavation practices to avoid damage, fundamental incident investigation techniques, documentation, and reporting. Here is the webinar schedule:

- Every Monday 11 a.m.-noon https://register.gotowebinar.com/rt/3415485945563573518
- Every Tuesday, 10 a.m.-11 a.m. https://register.gotowebinar.com/rt/4597577491773756429
- Every Wednesday, 7 a.m.-8 a.m. https://register.gotowebinar.com/rt/7593514680483569419
- Every Wednesday, 1 p.m.-2 p.m. https://register.gotowebinar.com/rt/8407930639799601423
- Thursdays, 10 a.m.-11 a.m. https://register.gotowebinar.com/rt/1118292794302815756
- Every Friday, 8 a.m.-9 a.m. https://register.gotowebinar.com/rt/7713407629287524878
- En Español, every other Thursday, 9 a.m.-10a.m. https://register.gotowebinar.com/rt/4474629003347063564

RRC's Free Datasets Draws More than 33 Million Downloads in FY 2020

During the Railroad Commission's ongoing efforts to modernize its computing systems, agency staff have been working to improve transparency to better serve the public.

Last year, the agency automated the creation of various sets of information frequently requested by the public that involve programmers from Information Technology Services having to write computer code to pull and customize electronically stored data, which comes in via a variety of sources, including the Oil and Gas Division and geographical information from RRC's mapping experts.

The datasets—more than 50, in fact—are now automatically made available through a webpage aptly titled, Data Sets Available for Download, which are broken down in the following categories: Boundary Ventures, Notices of Hearing, Digital Map Data, Drilling Permit Data, Oil and Gas Field Data, Production Data, Oil and Gas Regulatory Data, Oil and Gas Well Data, Severance Tax Incentive Data, and Underground Injection Control Data.

> *"It has triggered a wider use of our data,"*
>
> **Edgar Chavez, IT Service Delivery Director**

The information, which is available around the clock at no charge, has been so popular with the public that in Fiscal Year 2020, the agency recorded about 33.37 million downloads of the datasets. In August, the agency averaged nearly 152,000 daily downloads totaling a collective 304 gigabytes of data per day.

Before the website with the datasets, the agency usually received fewer than 7,000 such requests annually, mostly from businesses that would re-imburse for staff time and programming costs and "take data and repackage it to sell, such as to oil companies," said Roy R. Philips, Information Services Manager.

Now that it is gathered automatically and made available free of charge, the information is being used by groups that would normally not have the means to pay for its creation, such as college students, especially geographical information systems students looking for shapefiles.

The datasets also benefit journalists, who use the information to either provide more detailed analytical business reporting or to hold the agency and its regulated industry more accountable, which serves the public interest.

Before automation, it could take days after the agency received an open records request to create the customized set of data and deliver it via a CD-ROM or through a File Transfer Protocol or FTP site, said Matthew Herzog, ITS Manager of Public Service.

Instead of processing these sorts of requests, the ITS technician dedicated to this task now spends time providing customer service.

"We are spending more of our time on customer outreach so they understand the data they are getting and how to use it," said Brandon Harris, RRC's Chief Information Officer.

The Data Sets Available for Download is available at https://rrc.texas.gov/about-us/resource-center/research/data-sets-available-for-download/.

VIEW DATA SETS ▸

Online CASES Portal Now Processes

Other New Features Improve System,

More information and enhanced features have been added to the Railroad Commission's online CASES portal.

The CASES portal – which stands for Case Administration Service Electronic System – has begun to process all Railroad Commission hearings and enforcement case types. The updated system now handles dockets from the agency's Oil and Gas Division, Oversight and Safety Division, and the Surface Mining and Reclamation Division. When the first phase of the RRC CASES portal launched in March, it processed a smaller number of case types originating from the Oil and Gas Division.

With more documents now readily accessible to the public than ever before, the Railroad Commission has been able to further expand the transparency of its functions, decrease reliance on paper record, and streamline agency processes such as open records requests. Once documents are approved for digital filing, they are available for the public to view.

RRC CASES has also helped the agency's Hearings Division adapt to the current COVID-19 pandemic because it allows Administrative Law Judges and Technical Examiners to access dockets in CASES without having to retrieve a hard copy file.

"The CASES online portal is part of an ongoing effort to modernize operations at the Railroad Commission," said Wei Wang, RRC Executive Director. "CASES not only makes our hearings documents

All Hearings at Railroad Commission

Including Penalty Payment Function

available for anyone to view, but it also makes it easier for operators to submit case files electronically. As public servants, we strive to serve the public better, and CASES is a digital tool that helps us do just that."

Parties to a case or their representatives can save time and money by filing electronically through CASES. Legal Enforcement dockets can be viewed by the public and authenticated users can also upload or download files to the docket. Also, the updated CASES system now allows entities to pay administrative penalties via the portal.

Additionally, the Railroad Commission increased the file upload capacity to 15 gigabytes of data instead of the previous limit of 8 gigabytes.

Parties involved in a case or docket will need to register as an authenticated user to file electronically in RRC CASES. To become an authenticated user, you must submit the CASES Portal Authenticated User Form to the agency's Information Technology Services Division.

For more information, visit the RRC CASES page at https://rrc.texas.gov/hearings/rrc-cases/.

VISIT CASES ▸

WE ARE

LEADING TEXAS ENERGY
OIL & GAS ★ COAL ★ PIPELINES

Fiscal Year 2020 ended on Aug. 31 for the Railroad Commission and other state agencies. With it, goals have been met and exceeded because of RRC's dedicated staff, even during the ongoing COVID-19 pandemic. RRC's leadership is thankful for the perseverance of staff during this challenging year. The camaraderie that RRC's employees have shown across divisions and departments has been impressive, as has been their willingness to adapt and extend a helping hand.

The RRC's Underground Injection Control section takes work hard, play hard to a new level. Since March, the UIC team has submitted and received recognition from the U.S. Environmental Protection Agency for their End of Year evaluation of the regulation of injection wells to protect drinking water in Texas. They've transformed an all-paper process to digital, to ensure efficiency for the RRC and safety for their teammates when they work from home or in the office.

Heather Hesskew rocks Groundwater Protection. She is a key part in protecting our water sources, examining and approving applications for surface casing, underground injections and more. Heather also reviews the newly digital ST-1 applications and is a familiar voice on the

See more featured We Are RRC

Twitter Facebook LinkedIn Instagram

UIC PROGRAM, LEFT TO RIGHT Darlene Cottle, Jason Lockie, Floyd Miller, Ashlee Kenney, Rebecca Edwardsed

Chairman Craddick

COMMISSIONERS' CORNER

Last month, I was honored to be unanimously selected to serve as the Chairman of the Railroad Commission of Texas. I would like to extend my sincere appreciation and gratitude to Commissioner Wayne Christian, whose steadfast leadership guided us through some of the toughest months this agency has ever seen. From a global pandemic, to an international trade war, Commissioner Christian led the Railroad Commission of Texas with grit and determination. Thank you for your service, Commissioner!

As I transition into the role of Chairman, I will be focused on continuing to provide regulatory certainty while the industry continues to rebuild. This legislative session will be critical for the energy industry, and I look forward to working alongside my fellow Commissioners to secure funding for the agency so that we can maintain the programs that are vital to our mission. As we tackle the challenges that lie ahead, I welcome any feedback from stakeholders and staff alike. The only way we can ensure that the Railroad Commission remains the best agency in Texas is by working together. My door is always open, and I look forward to working on the issues that matter most to Texas' energy industry.

Commissioner Sitton

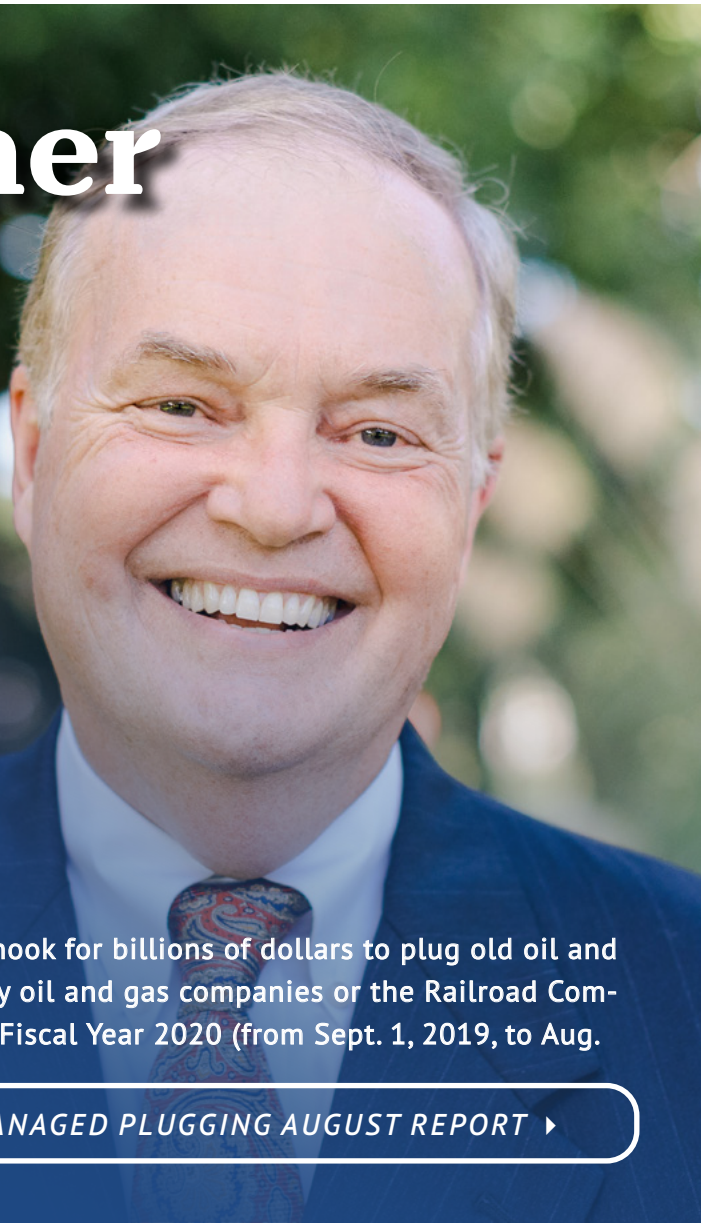
COMMISSIONERS' CORNER

Commissioner Ryan Sitton continues preparing to return to life outside of politics. In addition to preparing to take over the reins at the successful company he founded before running for office, PinnacleART, Commissioner Sitton is beginning work on his Ph.D. He is also an author! His first book, *Crucial Decisions*, goes on sale Nov. 10 and is available for pre-order now.

PREODER CRUCIAL DECISIONS ▸

Commissioner Christian

COMMISSIONERS' CORNER



On Oct. 9, Commissioner Christian spoke virtually to the Energy Council. He explained the Railroad Commission's pipeline permitting process and the drilling permitting process. "The broad theme of pipeline 'permitting' in Texas," Christian said, "is not a permitting process at all – it is a registration process intended to provide the Commission with the information it needs to perform safety inspections."

Commissioner Christian also recently drafted an op-ed rebutting a report by the *Houston Chronicle* on a study which claimed that Texas taxpayers will be on the hook for billions of dollars to plug old oil and gas wells. In reality, most oil and gas wells are plugged by oil and gas companies or the Railroad Commission using funds paid by the industry. For example, in Fiscal Year 2020 (from Sept. 1, 2019, to Aug. 31, 2020), the oil and gas industry plugged 7,375 wells without the use of any state funds.

VIEW STATE MANAGED PLUGGING AUGUST REPORT ▸

Oil and Gas Production Statistics

View monthly production totals of crude oil, condensate and total oil; and of gas well gas, casinghead gas, and total natural gas.

VIEW PRODUCTION STATISTICS ▸

Enforcement Actions

The Commission has primary oversight and enforcement of the state's oil and gas industry and intrastate pipeline safety. View RRC's Latest Enforcement Actions here.

VIEW ENFORCEMENT ACTIONS ▸

Public GIS Viewer

The Public GIS Viewer allows users to view oil, gas and pipeline data in a map view.

LAUNCH THE PUBLIC GIS VIEWER ▸