



About the Railroad Commission

The Railroad Commission of Texas (RRC) is the state's oldest regulatory agency. Despite our name, we no longer regulate railroads as of 2005. We have jurisdiction over the vast energy infrastructure in Texas, including oil and gas production, natural gas, hydrogen and hazardous liquid pipelines, natural gas utilities, coal and uranium surface mining as well as newly emerging industries such as underground hydrogen storage and carbon dioxide storage by deep underground injection.

Our mission is to serve Texas by our stewardship of natural resources and the environment, our concern for personal and community safety, and our support of enhanced development and economic vitality for the benefit of Texans.

The RRC is made up of four divisions that all work together to help us accomplish our mission. These are: **Oil and Gas, Oversight and Safety, Critical Infrastructure, and Surface Mining and Reclamation**. Through these divisions, we regulate the exploration and production of oil and natural gas, natural gas production even during periods of severe weather, alternative fuels safety, gas services, pipelines, and the surface mining of coal and uranium in the state.



Pictured is a well-plugging operation in Luling

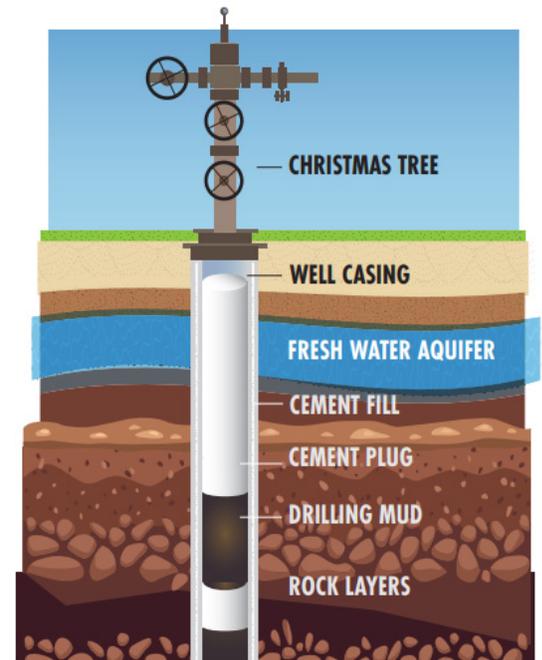
Stopping the Flow: The Critical Role of Well Plugging

Well plugging permanently seals a well to ensure it never becomes a conduit for fluid migration. An unplugged or improperly plugged well poses long-term risk to vital resources, such as freshwater aquifers, and as a surface and safety hazard.

Does the RRC plug wells too?

Although most oil and gas wells that are no longer productive are plugged by the responsible operators, the Railroad Commission administers a program to plug abandoned oil and gas wells. The RRC has plugged more than 46,000 wells through our **State Managed Plugging Program (SMP)**, a state-funded effort to plug wells whose operators are financially unable to do so, acting as a crucial environmental cleanup and stewardship measure for Texas. The RRC employs a staff of highly trained personnel, including engineers and geoscientists, that bring decades of combined experience regulating oil and gas industry operations.

- 86% of wells plugged in Fiscal Year 2024 were plugged by operators who responsibly fulfilled their well plugging obligations.
- According to a recent Interstate Oil and Gas Compact Commission study, Texas has seen one of the smallest increases in orphaned well populations in the country despite being the nation's number one oil and gas producer.
- The primary state fund used to plug orphaned wells is the Oil and Gas Regulatory and Cleanup Fund (OGRC), which is funded by revenue such as well plugging reimbursements, fees and financial securities paid by oil and gas operators.



Waste Disposal and Produced Water

Texas has consistently been a leader in oil and gas production in the U.S. and achieved record output levels in 2023, emphasizing its pivotal role in the national and global energy sector. However, with increased production comes challenges such as addressing the growing volume of produced water - **approximately 24 million barrels a day**.

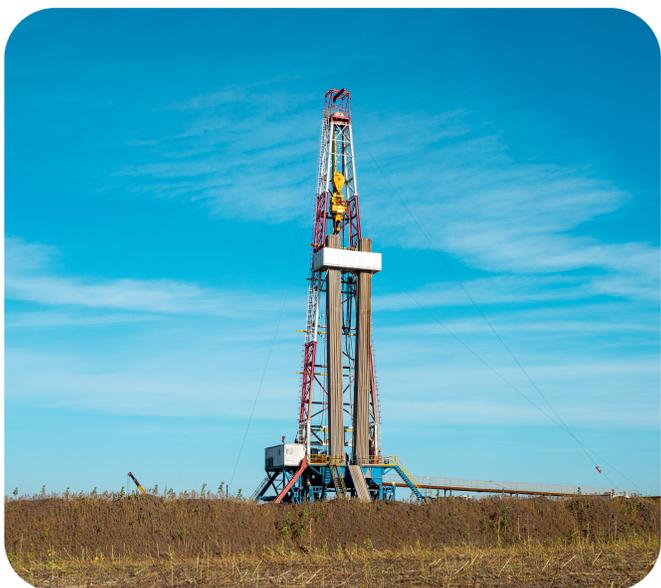
Produced water or saltwater (brine) is a necessary byproduct of oil and gas production. For every barrel of oil, several barrels of this highly saline water can be brought to the surface. The RRC regulates the safe disposal of this non-hazardous waste through our Class II Well Underground Injection Control (UIC) Program.



What currently happens with produced water?

The RRC's Class II Well UIC Program manages wells that are used to inject fluids, such as produced water, from oil and gas production. Currently, through this program, the vast majority of produced water is disposed into non-productive geographic layers. **Oil and gas production would be significantly impacted without the ability to manage produced water this way.**

The use of recycled produced water as a well completion fluid in the Permian Basin has grown rapidly, significantly reducing reliance on groundwater resources. By repurposing produced water, operators are minimizing the need to draw from groundwater aquifers, which is critical step in addressing water scarcity in this arid region. This shift not only helps address water scarcity issues but also reduces costs associated with sourcing and transporting brackish (produced) groundwater.



The agency has found, however, that certain regions in Texas have experienced an increase in seismic activity correlated with the underground injection of produced water into saltwater disposal wells. When earthquakes of magnitude 3.5 or greater occur, the RRC takes immediate action to mitigate seismic activity potentially linked to underground injection of produced water. RRC inspectors are dispatched to disposal wells within two miles of the earthquake location and, depending on the findings, may suspend injection permits or curtailing disposal volumes to minimize stress on geological formations. There are more than 375 seismometers, which record ground motion during an earthquake, in the state.

Drilling and Hydraulic Fracturing

The Railroad Commission regulates the entire lifecycle of an oil and gas well, ensuring conservation and safety at every stage. Regulation begins before any physical drilling occurs. An operator must first submit a Drilling Permit (Form W-1), which serves as the well's blueprint. The RRC reviews this permit to ensure compliance with strict rules governing the subsurface design. Staff will ensure the well's construction will **protect freshwater**. The permit specifies the depth of the surface casing, the first steel pipe run downhole, which must be set and cemented at a depth that protects all Usable-Quality Water (U.Q.W.) zones. The RRC also acts as a conservator of Texas's resources by ensuring that the proposed well spacing and depth are designed for efficient recovery, preventing the physical or economic waste of oil and gas. During the drilling process, the RRC **monitors and enforces** the mandated technical safeguards then once a well is producing, the RRC's role shifts to ongoing **oversight**.

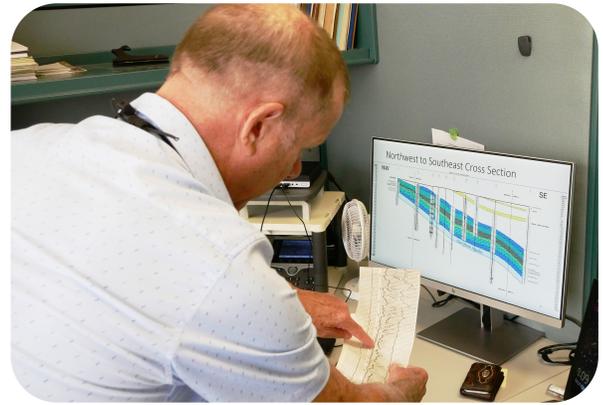
Career Paths with the RRC

The Railroad Commission has a team of diverse backgrounds to fulfill our complex mission. The staff, which includes Petroleum Engineers, Professional Geologists (P.G.), Environmental Scientists, and IT specialists, use the principles learned in geology and engineering classrooms every day to protect Texas's resources.

Geologists and Engineers: These are our core scientific regulators. They review well permits, analyze subsurface cross-sections, and use geologic mapping to determine safe depths for casing, cement, and disposal wells.

Environmental Scientists: They focus on remediation, field sampling, and overseeing cleanup efforts, including the RRC's State Managed Cleanup Program, helping clean up pollution of abandoned oil and gas sites.

Field Inspectors: These are the RRC's "eyes and ears." They are often technical experts who travel across Texas to conduct on-site inspections of drilling rigs, production facilities, and pipelines, ensuring direct compliance with state rules.



K-12 Resources

The RRC supports teachers and students by providing free K-12 resources connecting geoscience concepts to energy regulation and public policy. These resources are an excellent way for teachers to bring this field trip experience back to their classrooms. You can scan the QR code or access these resources at <https://www.rrc.state.tx.us/public-engagement/k-12-teacher-resources/>.



The Railroad Commission of Texas is the state agency with primary regulatory jurisdiction over the oil and natural gas industry, pipeline transporters, natural gas and hazardous liquid pipeline industry, natural gas utilities, the LP-gas industry, critical natural gas infrastructure, and coal and uranium surface mining operations. You can learn more at: <https://www.rrc.texas.gov/about-us/>