



Capping A Crisis

Oklahoma's Orphaned Well Threat

Thousands of undocumented, abandoned oil and gas wells are quietly affecting Oklahoma's groundwater and leaking methane near residential areas. Oklahoma legislators must address this environmental emergency with immediate, aggressive action to track and plug these hidden hazards before they deteriorate further.

Oklahoma is dotted with non-producing wells. In order to safeguard our communities and the environment, these wells must be closed properly. Historically, due to poor record-keeping, many wells have gone undocumented, or the operator of the well has gone bankrupt or out of business. Consequently, Oklahoma has thousands of wells that are orphaned.

The actual number of orphaned wells is difficult to discern because there are a number of undocumented orphaned well sites being discovered by landowners or through enhanced research using LiDAR (Light Detection and Ranging) technology. Orphaned wells are unplugged, non-producing wells where the operator of the well is unknown or bankrupt. A study completed by researchers at Los Alamos National Laboratory, The U.S. Department of Energy, and McGill University shows Oklahoma has one of the highest rates of orphaned gas wells in proximity to domestic groundwater supplies. Additionally, these wells are shallow, with the average depth

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being 2400 feet compared to the national average of 3550 feet¹. The proximity and depth of these orphaned wells threaten our environment and communities in multiple ways, including:

1. They can provide pathways for toxic chemicals to seep into groundwater as steel and cement casings deteriorate. This poses a significant risk to all drinking water sources, but particularly to those who rely on private wells that are not tested with the frequency of municipal systems.
2. Methane gas, in addition to being a climate pollutant, can travel through porous soils and into home basements or through water lines, posing explosion risks.
3. The scale of wells near water supplies makes it difficult for state and federal agencies to prioritize which wells should be plugged first.

Looking Ahead

In 2025, the state legislature, with the passage of SB 132, moved to curb the growth of natural gas orphan wells by mandating a phased closure for idle or “shut-in” wells to reach 100 percent by 2035. This will force operators to plug idle wells rather than letting them increase their liabilities and potentially declare bankruptcy before cleaning up their mess.

We must go further than SB 132 to protect Oklahomans and our natural resources by:

1. Deploying enhanced technology like LiDAR to detect additional undocumented orphan wells.
2. Expanding the protections included in SB 132 to include oil wells.
3. Establishing caps on the volume of water that can be injected into deep-well injection sites, especially in places with large numbers of orphan wells.
4. Begin routine testing of groundwater within a 1-mile radius of orphaned wells to detect signs of brine and/or methane migration.
5. Create a citizen scientist effort to map and document potentially failing infrastructure on their private property or in publicly accessible areas.

9,919

Operating injection wells
according to OCC

18,299

Orphan wells according to OCC

309,462

Orphan wells according to OCC,
DOE and McGill University

¹ Kang, Mary, et al. "Environmental Risks and Opportunities of Orphaned Oil and Gas Wells in the United States." *Environmental Research Letters*, vol. 18, no. 7, 2023, p. 074012. *IOPscience*, doi.org. [[1](#), [2](#)]