

# ALL COSTS, NO BENEFIT: Oil & Gas Waste on PA Roadways



EARTHWORKS

**Oil and gas wastewater is harmful to human health and the environment.  
It is often toxic and radioactive. It should be prohibited from Pennsylvania roadways.  
But the dumping continues.**

**Over 30 years ago,** the U.S. Environmental Protection Agency concluded that oil and gas development wastes “contain a wide variety of hazardous constituents.” Since then, many studies have documented the potential harms of oil and gas wastewater. Many of these studies have also proven its ineffectiveness as a substitute for commercial products like dust suppressants for unpaved roads.

Yet, Pennsylvania has allowed for massive amounts of oil and gas waste to be dumped onto unpaved roads in an effort to suppress dust. Between 1991 and 2017, 240.4 millions gallons of wastewater from conventional wells alone were dumped on PA roads.

The practice of dumping wastewater derived from *unconventional* wells was banned by the Pennsylvania Department of Environmental Protection (DEP) in 2016. In 2018, in response to an appeal filed to the Environmental Hearing Board, the DEP placed a moratorium on road spreading of wastewater from the conventional industry as well.



However...

## **The Dumping Continues**

Although a moratorium is in place, the use of potentially hazardous oil & gas waste on roadways continues. Between 2018 and 2021, operators self-reported dumping 3,259,405 gallons of their wastewater on Pennsylvania roadways, according to a recent report, “Moratorium Morass,” by the Better Path Coalition. The report further shows that conventional drilling companies have succeeded in circumventing the prohibition by using the Bureau of Waste Management’s Coproduct Determination Program.

**“The conventional oil and gas industry’s recent record of compliance with Pennsylvania law is simply not good...”**

--DEP report on the oversight of the conventional oil and gas industry in Pennsylvania

Under the program, conventional drillers conducted self-determinations that their waste met the requirements for a “coproduct,” and, therefore, could be reused in place of commercial dust suppressants on the roads. This

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investigation into the drillers who determined that their waste met the definition of a coproduct showed not a single driller properly followed the guidelines of the program and that none of the waste dumping reported to the DEP satisfies regulatory requirements, even within the context of the "loophole" program.

The real amount of wastewater that has been spread on Pennsylvania roads might be even higher. A [recent report](#) from DEP detailed the stunning scope of the conventional oil and gas industry's failure to comply with waste reporting requirements. Each year, from 2017-2021, a majority of conventional well operators failed to submit the required data to the DEP. This along with a host of other frequent violations led the DEP to conclude, "[t]he conventional oil and gas industry's recent record of compliance with Pennsylvania law is simply not good...."

#### HEALTH ALERT

At all stages of the oil and gas waste management process, toxins can enter the environment accidentally (spills, leaks, waste truck rollovers, and illegal dumping) or legally under current state and federal law (road spreading, discharge to rivers, landfill leaching). Oil and gas waste contains varying amounts of heavy metals, radioactive materials, salts, hydrocarbons, and other pollutants, some of which are carcinogenic and threaten human and environmental health. A list of oil and gas waste contamination cases can be found in our full report *Still Wasting Away* at [Earthworks.org](#).

## Studies Repeatedly Show Roadumping is Ineffective and Dangerous

The impact of dumping oil and gas wastewater on unpaved roads has been studied extensively. Together, the studies demonstrate conventional oil and gas waste is ineffective as a dust suppressant and is harmful to human health and the environment.

A 2022 study commissioned by DEP found wastewater is only about as effective as rainwater as a dust suppressant. The study also found that runoff from roads treated with wastewater contained radium, a known carcinogen. The team conducting the study concluded, "while we must be willing to accept the tradeoffs between the benefits of dust suppression and the drawback of the environmental impacts, this research has found that oil and gas wastewaters only provide drawbacks."

The 2022 study supported the findings of a growing body of research pointing to the ineffectiveness and dangers of oil and gas wastewater.

### Repeated Studies

- **2015:** DEP study concluded that the potential exists for recreationists using roads treated with brine to be exposed to radiation, and recommended that the radiological environmental impacts of using oil and gas field brine for dust suppression and de-icing be studied further.
- **2016:** State [bans wastewater from unconventional wells](#) from being used for dust suppression and road stabilization
- **(Jan 4) 2018:** Study suggests oil and gas [wastewater from conventional wells](#) results in radioactive contamination of disposal sites
- **(May 17) 2018:** State places [moratorium](#) on using oil and gas wastewater from conventional wells for dust suppression
- **(May 30) 2018:** [Analysis of oil and gas wastewater](#) spread on roads shows the waste is radioactive and contains toxic substances many times above drinking water standards.
- **(September Part 1) (October Part 2) 2018:** A [thorough review](#) of the available literature and data related to roadspreading finds the practice to be "ineffective and likely counterproductive for dust control and road stabilization." The review [also finds](#) that the practice has "verified environmental and foreseeable health risks..."
- **2021:** Study shows oil gas wastewater is [far less effective](#) at dust suppression than commercial counterparts
- **2022:** [Penn State study](#) finds oil and wastewater no more effective at dust control than rainwater and that runoff from roads treated with wastewater contains radium, a known carcinogen.



## Studies on Harms to Human Health and the Environment

Part two found heightened health threats, concluding the practice “has verified environmental and foreseeable health risks when applied at rates currently considered acceptable by state regulators, even without considering that enforcement of state OGB [oil and gas brine] application rate limits is rare.”

A 2018 Penn State study revealed that “[i]n Pennsylvania from 2008 to 2014, spreading O&G wastewater on roads released over 4 times more radium to the environment (320 millicuries) than O&G wastewater treatment facilities and 200 times more radium than spill events.” Another 2018 study concluded that even treated conventional wastewater was the source of high radium levels in stream sediments at waste treatment disposal sites and recommended that to properly protect against “radionuclide accumulation in the environment” that “current policies differentiating the treatment and disposal of conventional OGW [oil and gas wastewaters] from unconventional OGW should be reconsidered.”

## Studies on Ineffectiveness

A 2021 study compared the effectiveness of wastewater to commercial dust suppressants and found the wastewater to be far less effective at suppressing dust than commercially available products, stating, “[i]f the justification for using OGPW [oil and gas produced water] is equivalency with commercial counterparts, evidence points to far less efficacy.” Part one of a two-part 2018 study reviewed available literature and data on road spreading in the United States to find “spreading OGB [oil and gas well brine] on unpaved roads is ineffective and likely counterproductive for dust control and road stabilization.”

## **Conclusion: Ban & Enforce**

The research shows there are multitude risks and no concrete benefits to dumping oil and gas waste from conventional wells on Pennsylvania roadways. The moratorium has also proven insufficient to deter conventional waste producers from halting the harmful practice.

**DEP should treat the toxic, radioactive waste from conventional wells like it does from unconventional wells and explicitly ban the practice.**

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