

**Testimony Of  
David E. Hess  
Former Secretary  
PA Department of Environmental Protection  
Before The  
House Environmental Resources & Energy Committee  
Hearing On  
Spreading Oil & Gas Wastewater On Roads  
June 10, 2024**



*(Photos of road dumping in March and April, 2024)*

Chairman Vitali, Chairman Caser, members of the House Environmental Resources and Energy Committee, thank you for the opportunity to provide comments on the critical issue of the indiscriminate and unnecessary disposal of conventional oil and gas wastewater on Pennsylvania's public roads.

I served as Secretary of DEP under Governors Ridge and Schweiker and have been working on environmental and energy policy issues in various positions, including working in the Senate, for nearly 50 years.

I have one recommendation to offer at this hearing-- It is clear an immediate and total ban on road dumping conventional oil and gas wastewater is the only effective option for preventing millions of gallons of wastewater from polluting our environment.

I support [House Bill 2384](#) (Vitali-D-Delaware) and any efforts by the Department of Environmental Protection to amend its regulations to prohibit this practice under its Oil and Gas Regulations and prohibit consideration of oil and gas wastewater as a co-product under the Residual Waste Regulations.

**It's Waste**

First, let's be clear-- we are talking about a waste.

It's waste that's generated from the time a conventional oil and gas well is drilled through its entire life, which is decades.

The only way to stop this waste from being produced is to plug the well.

The industry uses benign terms to describe their waste.

It isn't "ancient sea water"-- no fish ever swam in it-- or "brine"-- no one ever made pickles with it-- it's waste that must be disposed of safely without doing harm to people or the environment.

If it wasn't for oil and gas drilling, we wouldn't be dealing with it. It would be trapped in shale and other rocks far below ground.

### **We've Studied This For Nearly 30 Years**

DEP, the industry, Penn State and others have studied conventional oil and gas wastewater for nearly 30 years and the conclusions are the same-- oil and gas wastewater contains harmful contaminants that exceed human health and environmental standards and as a result is a threat to surface and groundwater, aquatic life, poses health risks to humans and damages roads.

A 1996 study by DEP found conventional wastewater poses an "adverse environmental" risk and had to be closely regulated. [Read more here.](#)

Unfortunately, that didn't work because the industry failed to comply with the requirements set up based on the study.

A 1997 Moody & Associates study sponsored by the industry concluded "The water quality data generated from this study indicates that the long term discharge of shallow oil field produced water to the ground surface is not a viable management practice." [Read more here.](#)

There's no more vulnerable ground surface than a dirt and gravel road, or a paved one for that matter.

A 1985 study released in 2010 by the Department of Conservation and Natural Resources found high concentrations of barium in conventional oil and gas wastewater was the "likely the source of barium contents exceeding the drinking-water limits in some private wells and small municipal water supplies in western Pennsylvania." [Read more here.](#)

The study went on to explain, "Contents of barium and strontium are limited by the solubility of sulfates and carbonates but can be relatively high, so that a mixture of even small amounts of the brine [wastewater] with near-surface freshwater can produce barium levels above current limits established by the U.S. Environmental Protection Agency for drinking water." [Read more here.](#)

The 2010 DCNR study also found "radium values are high enough that a possible radiation hazard exists, especially where radium could be adsorbed on iron oxides and accumulate in brine [wastewater] tanks." [Read more here.](#)

"The release of [radioactive] radium, a known carcinogen, is a potential threat to human health. In Pennsylvania, we found that radioactivity associated with radium released to the environment via road spreading exceeds the radioactivity of radium released by spill events or wastewater treatment plants." [Read more here.](#)

I note DEP banned the road dumping of wastewater produced by shale gas wells in regulations that became effective in 2016.

A 2018 Penn State study based on research by a team led by Dr. Travis Tasker concluded-- "Spreading O&G [oil and gas] wastewater on roads can harm aquatic life and pose health risks to humans." [Read more here.](#)

"... O&G wastewaters transported from the road to surface water after rain events are likely the major potential threat to aquatic toxicity." [Read more here.](#)

"These wastewaters could require up to 1,600 times dilution to reach drinking water quality standards or approximately 100 times dilution to reduce acute toxicity to aquatic

organisms,” according to the Penn State study. [Read more here.](#)

The study recommended using only “nontoxic products” for dust suppressants or “highly treated” wastewater. [Read more here.](#)

In 2021, the [Penn State Center for Dirt and Gravel Road Studies](#) called the road dumping of oil and gas wastewater an “environmentally unsound practice” that can cause water pollution and even damage roads. [Read more here.](#)

The Center noted the high sodium levels in oil and gas wastewater-- eight to 10 times sea water-- can actually make dirt roads dustier. [Read more here.](#)

The Department of Conservation and Natural Resources bans road dumping oil and gas wastewater for any purpose on its over 6,500 miles of state forest roads. DCNR is the largest owner of dirt and gravel roads in the Commonwealth. [Read more here.](#)

The Allegheny National Forest says “commercial dust suppressants now available render the practice of spreading oil and gas wastewater on roads unnecessary” within the National Forest in Elk, Forest, McKean and Warren counties. [Read more here.](#)

In a 2021 Senate hearing, DEP acknowledged, “the potential for environmental impact from spills or leaks of TENORM [Technologically Enhanced Naturally Occurring Radioactive Materials] contaminated material is real” adding, based on its 2016 study of TENORM and the oil and gas industry, further investigation of roads treated with oil and gas wastewater was needed. [Read more here.](#)

A study released in 2021 by Penn State based on research by a team led by Dr. Nathaniel Warner found road dumping of conventional oil and gas drilling wastewater results in increased cancer risks for people living along those roads, especially children. [Read more here.](#)

The study found increased cancer risk from arsenic, lead and nickel in road dust contaminated by wastewater that is above the one in a million risk threshold. [Read more here.](#)

In addition, increased health risks were found to younger populations from the neurotoxins like arsenic, manganese and lead, also found in the wastewater contaminated road dust. [Read more here.](#)

Another study released in 2021 by Penn State based on research led by Dr. William Burgos found oil and gas drilling wastewater is far less effective than commercial products at suppressing dust, is easily washed off roadways into nearby streams and fields and contains pollutants that can negatively affect human health, agriculture and aquatic life. [Read more here.](#)

A study released in 2022 by Penn State based on research led by Dr. William Burgos, and underwritten in part by the Department of Environmental Protection, found conventional oil and gas wastewater from producing wells spread on unpaved roads contained 25 contaminants that exceeded human-health and environmental standards. [Read more here.](#)

The contaminants included barium, strontium, lithium, iron, manganese, and radioactive radium. [Read more here.](#)

The same study said it was no more effective than plain water as a dust suppressant. [Read more here.](#)

A study released in 2023 by Penn State found “brine” water pumped from played-out conventional oil and gas wells that were not producing and used as dust suppressants and winter road treatments had at least 11 contaminants that exceeded environmental and health standards. [Read more here.](#)

A study released in 2024 by Penn State based on research led again by Dr. William Burgos found wastewater from conventional oil and gas wells fails to meet US Environmental

Protection Agency beneficial reuse criteria for use as road dust suppressants and poses "unique risks to environmental health." [Read more here.](#)

During an April Senate hearing in the Senate, Dr. Burgos said, "There's no more research that needs to be done" to justify adopting a state ban on the road dumping of conventional oil and gas wastewater." [Read more here.](#)

### **Attempts To Regulate Road Dumping Failed**

There have been attempts to regulate the road dumping of conventional wastewater before to reduce its environmental and health impacts.

Starting in 1996, during the Ridge Administration, we looked at road dumping and the environmental impacts of this disposal method, as I noted. [Read more here.](#)

The result was a set of guidelines in 1998 that limited how much could be dumped on roads and where so it wouldn't run off and pollute. [Read more here.](#)

The industry failed to comply with the limits on how they dumped or required reporting. They just kept dumping.

The DEP Oil and Gas Program process for approving road dumping ended in 2018 with the settlement of Siri Lawson's appeal before the Environmental Hearing Board. [Read more here.](#)

But, that did not stop the conventional well owners.

Well owners turned to DEP's Residual Waste Regulations and the "co-product" use process to get their waste approved for road dumping.

But, DEP's Waste Management Program said the industry didn't meet those requirements either. [Read more here.](#)

Road dumping remains illegal as a result, but the industry keeps dumping. [Read more here.](#)

### **Townships At Risk**

DEP considers municipalities where conventional oil and gas well owners road dump their waste as "waste facilities" in its waste disposal recordkeeping. [Read more here.](#)

So far, 84 townships have this designation in DEP's waste disposal database. There's a list. [Read more here.](#)

But those are only the ones DEP knows about and well owners reported.

DEP has also taken the step of advising municipalities in writing that road dumping conventional oil and gas drilling wastewater is illegal and considered waste disposal-- since it doesn't meet Residual Waste Regulation requirements. [Read more here.](#)

Townships that actively solicit wastewater for dumping or consent to dumping in some way, put themselves at risk of aiding and abetting an illegal activity.

### **Attorney General Investigation**

The fact conventional well owners continue to road dump hasn't gone unnoticed.

According to a consultant for conventional oil and gas well owners, the state Office of Attorney General has been investigating the illegal disposal of conventional drilling wastewater by road dumping under DEP's Residual Waste Regulations [Read more here.](#)

No charges have been announced, yet.

### **Non-Compliance A Norm**

Non-compliance with regulations and the law is not an isolated event with conventional well owners.

In December 2022, DEP issued a first-ever assessment of compliance by conventional

well owners that found “non-compliance” is an “acceptable norm in the conventional oil and gas industry.” [Read more here.](#)

As a widespread business practice, conventional well owners also routinely abandon more oil and gas wells annually than Pennsylvania is plugging with taxpayer money in the new federal well plugging program. [Read more here.](#)

In 2023, DEP issued notices of violation to 271 conventional oil and gas wells for abandoning and not plugging those wells. [Read more here.](#)

So far in 2024, conventional well owners received 485 violations for abandoning and not plugging wells. [Read more here.](#)

DEP reported that in 2023-- 89% of conventional oil and gas well owners failed to submit annual well integrity reports for 34,455 wells to ensure they aren't leaking oil or venting gas. [Read more here.](#)

They also pass conventional wells off to other owners with less financial capacity to actually manage them, setting them on the path to abandonment. [Read more here.](#)

DEP also reported that in 2023-- 86% of conventional oil and gas well owners failed to submit annual reports showing how much waste they generated and how they disposed of it covering 33,505 wells. [Read more here.](#)

DEP issued a record 6,860 notices of violations to conventional well owners for breaking all kinds of regulations and laws in 2023. [Read more here.](#)

That's 51.9% more than in 2021 and 569.9% more than in 2015.

Kurt Klappowski, DEP Deputy Secretary for Oil and Gas Management, told the House Environmental Resources and Energy Committee in March--

“Unfortunately, reviewing inspection and compliance data developed since 2017, DEP has identified widespread non-compliance with laws and regulations in the conventional oil and gas industry, particularly regarding improper abandonment of oil and gas wells but also not reporting hydrocarbon and waste production and conducting mechanical integrity assessments.”

### **I Saw For Myself First-Hand**

These are the facts and they argue strongly for a bright line between what is legal and what isn't so conventional operators, township supervisors, county officials, DEP and citizens can tell right from wrong.

But, there is no substitute for seeing the impact of road dumping first-hand.

For three days last week I took the opportunity to visit with Siri Lawson and her husband Wayne in Warren County to see for myself.

For 11 weeks-- starting on March 12-- Siri saw and took photos of fresh oil and gas wastewater dumped on roads completely surrounding her home.

On April 4, she had wastewater dumped on the road running right in front of her house-- something that hasn't happened for the last six years.

It was right before she was scheduled to have her testimony on road dumping presented to a Senate Committee hearing on road dumping April 17.

She observed wastewater on dirt, gravel, tar and chip and paved roads-- it didn't matter which-- on March 12, 16, 20, 26, 28, April 4, 15, 17, 19, 30, May 4, 8, 12, 15, 18, 26, 28, and 29-- 18 different days.

And the dumping continued later last week.

### **What I Learned**

Over the three days I was there, Siri took me on a 120+ mile inspection tour of dirt,

gravel, tar and chip and paved roads in Warren County to educate me on road dumping.

This is part of what I learned--

-- **Dumping On Paved Roads:** Wastewater dumpers are doing more and more of their dumping on paved roads and tar and chip roads, something they rarely did before. It's much faster to get rid of a load of wastewater that way because it either runs off or dries quickly.

-- **Waiting For Rain:** Siri said it's very clear wastewater dumpers are waiting until there is rain in the forecast to spread their loads, again to better hide their activities, especially on paved roads. In fact, it rained late on the afternoon I left, and Wayne saw a section of fresh wastewater dumping on his way home. We didn't see any fresh dumping on the dry days before that.

-- **Residuals On Roads Tell Much:** Residual salt and other contaminants left on paved roads have a tell-tale shine and color that marks them as dumping grounds. You can see it in person and in Siri's photos. I even saw a deer licking a paved road for the residual salt left behind by the very salty wastewater.

-- **Damage To Paved Roads:** I saw sections of paved roads known to be heavily dumped on that have a dense pattern of mini-potholes-- like that lacy Swiss cheese-- which they suspect to be caused by the salt in the wastewater eating away at the pavement, something local township road officials saw little of before because the dumpers didn't hit paved roads much.

-- **Better Maintenance Techniques For Dirt Roads:** We saw one township using maintenance techniques on their dirt roads pioneered by the Penn State Center for Dirt and Gravel Road Studies to stabilize the road surface so there is less dust. The dump truck driver we talked to said it was the second year they tried it and it worked great!

-- **Very Difficult To Catch In The Act:** Warren County alone has 1,276 miles of state and local roads. Siri's township alone has 44 miles of dirt roads. The trucks dumping oil and gas wastewater not only use roads in Warren County but in all the counties around them and up into New York state. The routes they take to pick up wastewater at conventional well sites cover those same counties and up into Erie County. Trying to catch dumpers traveling those roads very early in the morning-- starting at 4:00 a.m. is not uncommon-- on days it is likely to rain is a very tall order. And game trail cameras can't catch them because they are too fast.

### **Conclusion**

It is clear an immediate and total ban on road dumping conventional oil and gas wastewater is the only effective option for preventing millions of gallons of waste from polluting our environment.

I support House Bill 2384 and any efforts by the Department of Environmental Protection to amend its regulations to prohibit this practice under its Oil and Gas Regulations and prohibit consideration of oil and gas wastewater as a co-product under the Residual Waste Regulations.

### **Resource Links:**

-- Photos Of Typical Road Dumping: [See Photos Here](#) + [See Photos Here](#)

-- Week 10: [Illegal Dumping Of Conventional Oil & Gas Wastewater Continues Unabated On Paved, Dirt Roads, Before It Rains, It Doesn't Matter In Warren County](#) [PaEN]

-- Senate Hearing: [The Case For An Immediate, Total Ban On Road Dumping Conventional Oil & Gas Wastewater](#) [4.17.24]

-- Senate Hearing: [Penn State Expert: 'No More Research That Needs To Be Done' To Justify A Ban On Road Dumping Conventional Oil & Gas Wastewater](#) [4.17.24]

-- Senate Hearing: [First-Hand Account Of Health, Environmental Impacts From Road Dumping](#)

Conventional Oil & Gas Wastewater - 'Inhaling Oil & Gas Wastewater 24-Hours A Day'

[4.17.24]

-- Senate Hearing: [3.5 Million Gallons Of Conventional Oil & Gas Wastewater Dumped On PA Public Roads Since DEP's 'Moratorium' On Dumping Started 6 Years Ago](#) [4.17.24]

-- Senate Hearing: [DEP Still Evaluating The Data On Road Dumping Conventional Oil & Gas Wastewater; Asks Public To Report Road Dumping](#) [4.17.24]

-- Articles [On Oil & Gas Industry Impacts In Pennsylvania](#)

[Prepared: June 9, 2024]